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Editorial

WHAT FOOLS WE DOCTORS BE

There is one thing about the medical profession that we ought to be ashamed of. It is that we are too gullible in the hands of experienced propagandists and self-seeking exploiters who roam about the world under the guise of uplift. Newspaper men and professional politicians, long ago found that the doctor would swallow most anything he saw printed. The fact that propaganda "got into type" in the doctor's estimation gives it the sanction of proof, and for this reason we have been the victims of every sort of deception. Yellow journalism and what passes for politics have established a vicious circle which has milled the medical profession so long, that it has become a humiliating joke.

Doctor, don't you ever feel humiliated or rather insulted at times at the estimate the uplifters (for revenue) and politician place on your mentality when he puts before you some of the fifty-seven varieties of deceit, lies and uplift propaganda that a ten-year child should detect, all the time he is trying to make you believe he or she is working for your interest?

SAY IT WITH VOTES

Some enterprising florist coined the phrase "Say it with flowers." That saying has been taken up throughout the country until now it is one of the best known advertising slogans extant.

What more attractive wording could be suggested? Saying it with flowers offers a medium for the expression of almost every sentiment—esteem, affection, reverence, sorrow. Not only has this slogan profited the florist financially, but it has increased the popular use of some of nature's choicest products, and has enhanced the esteem in which he is held as a purveyor of these products.

The medical profession has a similar condition to meet. We want to increase our prestige with the members of the Legislature. Let us, then,

adopt a similar slogan: "SAY IT WITH VOTES."

The time will soon be here when you can express your appreciation to those who will give us a square deal in the Assembly, as well as administer—in some instances—an effective rebuke to those who have proved false and have not been true to their word, to those who seek the office of senator or representative but have no regard for the health and physical welfare of the people. To all these you should *say it with votes*

Don't forget that unless it is said with votes at the spring primaries and the fall elections, we may need the flowers to express our regrets. Don't be a "dead one."

THE AMERICAN MEDICAL ASSOCIATION MEETING

The seventy-fifth annual session of the American Medical Association convenes in Chicago, June 9-13, 1924. At this time the Association will be the guests of the Illinois State and Chicago Medical societies. The cooperation of all members is sought to make this, the diamond jubilee, the greatest meeting in the history of the medical profession of America.

All scientific meetings, registration bureaus and commercial exhibitions will be on the Municipal Pier. Diognostic clinics for two days (Monday and Tuesday, June 9 and 10) will be given by men of national reputation. These will be at the Municipal Pier. There will be daily conferences on fresh pathological material, under the direction of well known pathologists. These conferences will be at the Municipal Pier. The scientific program is of excellent quality. The local committee is arranging for entertainments that will engage the attention of any non-scientifically inclined or who get surfeited at the pier. The theaters and summer gardens have attractive features. Above all, it is the time of year to make a break and get a rest before the hot weather rush is on. All are invited to Chicago, June 9-13.

ILLINOIS MEDICAL WOMEN ATTENTION

Will you not help make the American Medical Association meeting in Chicago one of the biggest of its kind; and since you are planning to be here June 10th, will you not arrange to be in Chicago Monday, June 9th, that you may meet with the Medical Women's National Association and enjoy their splendid program? Monday night a program will be given in Fullerton Hall, the Art Institute, by medical women who have served in relief work during and after the great World War. Following the meeting there will be held a reception in the Art Galleries which you should not miss.

If you are not a member, will you not come and join the Medical Women's National Association? If you are a member, will you not show your loyalty by coming and bringing someone with you? Membership in the American Medical Association is a requisite for active membership in the Medical Women's National Association.

A survey of the Medical Directory of the state of Illinois records approximately 700 women physicians. Fifty are eclectics, 147 are from the homeopathic colleges, and 493 from the regular schools. Only 146 of the graduates from the regular colleges are reported as members of the American Medical Association.

You cannot afford to miss the advantages of being a member of your county society. You should not miss the educational advantages of the Illinois Medical Journal, with its news from all over the state and county. Become a member of the A. M. A., receiving its weekly Journal which will keep you in touch with the medical advance of the world.

Come at any rate. We want to see you; and Chicago offers many attractions.

Rachel Hickey Carr,
Chairman, Women's Committee,
American Medical Association.
Lena K. Sadler,
Chairman, Women's Committee,
Medical Women's National Association.

MAKE A. M. A. HOTEL RESERVATIONS EARLY

Dr. Frank R. Morton, 25 East Washington Street, Chicago, is chairman of the committee on hotels for the Chicago session of the American Medical Association. The meeting is to be held June 9 to 13. Already several of the larger and centrally located hotels announced that their entire capacity has been reserved for the week of the convention. It would be well for those who expect to attend the session to make hotel reservations promptly.

PROHIBITING THE USE OF THE TERM DOCTOR

A bill was introduced at the present session of the New York legislature intended to curb the activity of quack healers. One of the most conspicuous provisions of the act is one which prohibits the use of the term "Doctor" or any abreviation thereof in connection with any occupation or profession concerned with the health of the public, except that this is not to be construed to abridge the use of a degree conferred by a duly constituted institution authorized to confer it. Such a law would go far towards curbing the activity of quack healers whose chief stock in trade is their ability to advertise themselves, combined with the use of the word "Doctor."

UNITED STATES JUDGE EXONERATES DOCTOR OF FRAUD FOR THE TREATMENT OF PATIENT BY THE ABRAMS METHOD

In the United States District Court for the eastern district of Arkansas there was recently tried a case in which a doctor was charged of using the mails for the purpose of carrying on a fraud. It seems the doctor had offered to cure a woman of tuberculosis by the so-called Abrams electronic treatment. Judge Trieber directed a verdict in favor of the doctor and he, handing down his decision, used the following language: "A few years ago it would have appeared impossible that the time would come when people would converse with others thousands of miles away; it seemed incredible, yet it is now being done daily. When we read Bellamy's 'Looking Backward,' where he said by the use of some method still unknown people will be able to stay at their homes and listen to sermons at church, concerts and operas at the theatre, and hear them just as well as if they were in the room, we did not believe it possible. When we read years ago Jules Verne's "Twenty Thousand Leagues Under the Sea," we thought, just as we did of Bellamy's work, that he was either a man of fertile imagination or crazy; yet during the World War we have seen under-sea vessels come from Europe to America and return from America to Europe. Many other things seemed just as impossible at first. Who would have thought, twenty-five years ago, that it would be possible to have wireless telegraph? All these things seemed impossible, yet now they are actual, existing facts.

"So, gentlemen, for a court and jury in a criminal proceeding to attempt to pass upon a question like this would be folly. We would be undertaking to settle questions on which the greatest scientists living seem to differ. For that reason, we are not going to pass upon them.

"Now we have heard, in addition to the physicians who have testified here of the absolute correct diagnoses which have been made by this process or invention, the scientific invention of Dr. Abrams, of the many cures effected, diseases which the greatest surgeons and physicians claim are at the present time incurable. That although millions are being spent annually for the purpose of discovering some means of curing such diseases as cancer, and other supposedly incurable diseases, it has been impossible to find such cures. In tubercular cases, it seems that the general treatment for the cure as was testified by Dr. Hughes, and which we almost daily hear of, is not medicine, but rest, good food, and a life out of doors, if possible in a dry climate, but always absolute rest and a strict diet. This is claimed to be the only cure known at present. On the other hand, this defendant and the physicians introduced in her behalf, claim that by the Abrams treatment this disease can be cured, using the treatment prepared and sold by him.

"In addition to that, a large number of persons have been introduced here as witnesses on the part of the defendant, who testified that they had suffered from certain diseases, and that by applying to the defendant they were cured by this treatment. No one has been introduced by the Government to show that any person treated by her has been defrauded, or that they found the treatment didn't benefit them. Although I want to say this to you, gentlemen, as some of the physicians here said, the treatment will not cure in every instance, nor will the physicians who administer that cure always be successful; yet we know, gentlemen, that the greatest surgeons and greatest physicians do not always cure their patients.

"The Court is still unconvinced of the great curative properties secured by this treatment, but there is not evidence here which, in the opinion of the Court, would justify a finding that this woman didn't actually and honestly

believe in the success of that treatment, or that she did in undertaking to treat people do it with the intention of defrauding them."

COURSE IN TUBERCULOSIS FOR PRACTITIONERS

During the summer quarter at Rush Medical College the regular course on tuberculosis is given to students. This course, as in former years, is open to physicians and advanced students in medicine. The course, consisting of lectures and clinics, is outlined as follows:

Beginning with the history of tuberculosis, continuing the study of the etiology, atria of infection, heredity and predisposition, infection and contagion, immunology, histology and pathology, we next take up a consideration of pulmonary tuberculosis, the symptomatology, diagnosis, prognosis and treatment. Particular attention is given to the physical examination by inspection, palpation, percussion, ausculation and roentgenology. The medical and surgical treatment of pulmonary tuberculosis will be fully considered, including heliotherapy, hydrotherapy, reconstructional or occupational therapy, etc. Tuberculosis in children and the various complications like tuberculosis and pleurisy, tuberculosis and pregnancy, tuberculosis of bones and joints, genito-urinary, skin, etc., are studied.

This course will be given every Wednesday and Saturday morning from 9 to 11 o'clock Beginning Wednesday, June 18, continuing to Wednesday, August 27, inclusive. For particulars communicate with Rush Medical College, 1748 W. Harrison Street.

INSTRUCTION ON TUBERCULOSIS

On Monday, June 2d at the Quincy Chamber of Commerce there will be conducted an intensive one day post-graduate School of Instruction in Tuberculosis. The latest methods of the diagnosis and treatment of tuberculosis will be thoroughly explained by four eminent clinicians, Drs. J. W. Pettit and R. T. Pettit of Ottawa, Ill. Dr. G. T. Palmer of Springfield, Ill., and Dr. J. S. Pritchard of Battle Creek, Mich. The entire program is being conducted by the Illinois Tuberculosis Association under the auspices of the Adams County Medical Society.

The school will last all day, beginning about 9: A. M. and terminating at about 4:30 P. M. Everything will be free, including luncheon at the Adams County Tuberculosis Sanitarium.

The Adams County Medical Society takes this opportunity to extend an invitation to you to spend Monday, June 2d in Quincy as our guests and to attend this Post-Graduate School of Instruction. We assure you of a hearty welcome and will do everything we can to make the meeting well worth your time to attend. More complete details of this course will appear in the June Bulletin of the Adams County Medical Society, which you will receive the last week in May.

Trusting that you will be able to avail yourself of this opportunity to receive new information in regard to one of the most common chronic diseases the general practitioner is called upon to treat, we are Fraternally yours,

ADAMS COUNTY MEDICAL SOCIETY,
HAROLD SWANBERG, M. D.,
Secretary.

MEDICAL FILMS

The Society for Cinematographic Instruction in Medicine and Surgery, with headquarters at 105 West 73rd street, New York City, announces that, after two years' intensive experimentation with various cinematographic technicalities, it is now ready to proceed with its full program.

"It has been necessary to make a lengthy and accurate test of cameras and of various methods for filming, developing and printing of films, which procedure has consumed considerable time and money," James S. Edlin, M. D., President of the Society, states. "We now have in charge of our film production a man who has had many years' experience in the production and distribution of educational and pedagogical films, Mr. Samuel A. Bloch. Mr. Bloch organized the Educational Department for one of the most prominent film companies, and has produced educational and technical motion pictures independently. He is both an educator and a trained motion picture executive."

The Society is now ideally equipped, Dr. Edlin says, to produce films for the medical, surgical, dental, drug and allied professions, and invites correspondence from all those interested in membership in the Society, as well as those desirous of securing excellent and truthful motion pictures.

Among the cinemas already produced by the

Society are the following: A Study of the Motor Control of Gait and Posture, from the Neurological Division of the Montefiore Hospital, New York City, S. P. Goodhart, M. D., Director, and a study of Disease of the Nervous System, from the Neurological Division (Cornell College) of Bellevue Hospital, New York City, Foster Kennedy, M. D., visiting physician in charge, both produced under the direction of Walter M. Kraus, M. D.; Root Resection, Adolph Berger, D. D. S., Oral Surgeon, Vanderbilt Clinic, New York City; Presentation of Surgical Cases from the Hospital for the Ruptured and Crippled, New York City, under the direction of Charlton Wallace, M. D., Associate surgeon and chief of Clinic.

SUMMER MEETING FOR THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER, WILL BE HELD AT CHICAGO, ILLINOIS, TUESDAY, (JUNE 10th) A. M. A. WEEK.

The American Association for the study of goiter composed of surgeons, internists, pathologists, anesthetists and radiologists will hold their summer meeting at the Sherman Hotel, Chicago, Tuesday (June 10) of A. M. A. week.

A banquet will be held in the evening of the same day. The association has a good program arranged for all who wish to attend.

President, E. P. Sloan, M. D.,
Bloomington, Illinois.
Secretary, J. D. Mochelle, M. D.,
Indianapolis, Indiana.

DIAGNOSTIC CLINICS

Diagnostic clinics will be held at the Municipal Pier on Monday and Tuesday, June 9-10. The first clinic on Monday will be at 10 a. m.; on Tuesday, at 9 a. m. The schedule submitted below is tentative and subject to change.

1. (*a*) Prevention of Diphtheria: Schick Test; Administration of Toxin-Antitoxin Mixture.
   (*b*) Prevention of Scarlet Fever. Demonstration of Susceptibility, Immunization.
   John McCormick Institute for Infectious Diseases, Chicago.
2. Skin Diseases. Howard Fox, New York.
3. Tumors of the Breast.
   Jarez N. Jackson, Kansas City, Mo.
4. Classification, Diagnosis and Treatment of the Nephritides. Martin H. Fischer, Cincinnati.
5. Infant Feeding. W. McKim Marriott, St. Louis.
6. Endocrine Cases. William Engelbach, St. Louis.
7. Stomach, Duodenum and Pelvic Cases.
   John B. Deaver, Philadelphia.
8. Anastomotic Circulation in Portal Obstruction.
   William S. Thayer, Baltimore.
9. Glaucoma.
   William Campbell Posey, Philadelphia.
10. Gallbladder and Malignancies of the Colon.
    John F. Erdman, New York.
11. Chronic Myocarditis.
    Henry A. Christian, Boston.
12. Diagnosis and Indications for Treatment in Diseases of the Prostate.
    Hugh H. Young, Baltimore.
13. Diabetes. Elliott P. Joslin, Boston.
14. Orthopedic Clinic.
    Royal Whitman, New York.

DOWN STATE WE DEFEATED SPRAGUE FOR SENATOR

Doctors, druggists, dentists, nurses and undertakers admit responsibility for the down state defeat of A. A. Sprague as democratic nominee for United States Senator.

By a ratio of approximately three to two Sprague was defeated outside of Cook County, or, otherwise, in the hundred downstate counties. That opposition to Sprague by the organizations named herein accomplished this defeat is the verdict of newspaper men and of politicians. Medical and allied professions were the only open opponents of Sprague's nomination save in Sangamon County, where the Teachers' Federation joined with us. Broadcasted over the state where 30,000 pieces of literature, telling the medical and allied professions to fight Sprague as a possible senator, because of his former connection with the notorious Public Health Institute of Chicago.

In Cook County, this justified campaign was less successful. For in Cook County we were obliged to cope with brace game methods of the regular organization. Every method of coercion known to astute politicians was resorted to, in order to effect delivery from the ward personnel. Information is whispered that free use was made of threats of dismissal from the municipal and other public payrolls that these organizations control, unless the precincts under their jurisdiction were delivered to the regular organization.

That these alleged threats proved effective seems manifest from analysis of returns from many precincts in Cook County. For instance one precinct went 280 for the organization to one for the opposition; several precincts registered 288 for the organization to six of the opposition.

Juggling in election returns would appear to be the handwriting on the wall, for several examples. Consider how, in one precinct the slate got 320 votes, while the opposition received only 14 votes, and *this maintained for every man on the ticket*, from national delegates alternates to the national convention, district delegates and right along down the line. Even a blind man can see open face jugglery, with half an eye!

Taking heart of grace from the down state returns the allied professions have a poignant example of

what a power they seek to drain an oasis or two in the present nauseous quagmire of cheap politics. Standing shoulder to shoulder doctors, dentists, druggists, nurses and undertakers are a force to be reckoned with. Incisive, cohesive labor from these correlative guardians of the public health and welfare will eventuate into an impregnable power for the actual physical and material uplift of the citizenry of the United States. Analgous agencies having to do with health matters can find an organization of a quarter of a million individual centers of distributive influence. If this organization works coherently and loyally there will be no more legislation inimical to the public health placed upon the Statute Books of the country and a great deal of much handicapping lumber written there now will be repealed in short order. Best of all, in such an organization is tempered tool with which to combat the socialization schemes now prevalent in this country and cropping up like "Pusley" in every community in the land.

The sooner these allied professions and works awake to the fact that there is a fight on their hands right now to safeguard the health of the country from the insidious destruction of socialistic legislation, the quicker the situation can be cleaned up. This is not an hour when any man with a public conscience dare sit by his fireside and smoke, as the public busybodies have already stuffed that fireside with suffocating statutes written in the putrid ink of political graft. But one remedy exists and that is organization and definite ballot-box protest.

HOW ANNUAL REGISTRATION OF DOCTORS WORKS OUT

Connecticut has a medical population of 1,727 licensed physicians. The state has had an annual re-registration law for five years. The re-registration feature did nothing to purge that state of quack doctors and those holding fraudulent diplomas.

It remained for Harry T. Brundidge, a *St. Louis Star* reporter to show up the fallacy of annual re-registration of doctors; as the result of his exposé the licenses of 173 doctors were revoked in Connecticut.

WHY ILLINOIS DOCTORS OPPOSE ANNUAL RE-REGISTRATION

First. The principle is wrong; it savors of autocracy which latter is repulsive to American ideals.

Second. Because of unpleasant experience with the first Director of the Department of Education and Licensure, a layman and an autocrat of the most pronounced type, who no sooner discovered the autocratic powers that fell within the scope of his office than he attempted to put over a re-registration law one of the provisions of which read:

"In every proceeding under the provisions of this act an averment that the defendant at the time of the alleged offense was without the required license or certificate of renewal of registration shall be taken as true, unless disproved by the defendant. This paragraph would represent Bolshevism in action.

Third. A re-registration law would serve to beat practitioners into submission to those "wise social experiments" or into innocuousness by denying him the right to practice his profession.

Fourth. A re-registration law would act as a legislative club to beat the practitioners into submission to panelization or to render them innocuous by taking away their licenses under the police power of the State (Dr. Dent vs. State of West Virginia, 129 U. S. Reports, page 114, year 1889).

Fifth. It nullifies the license already granted a doctor to practice medicine in perpetuity and substitutes therefore a year to year license.

Sixth. The present registration in the County Clerk's Office is sufficient.

Seventh. The record of every doctor licensed to practice medicine in Illinois is on file in the Department of Education and Registration at Springfield.

Eighth. It is class legislation in that the profession is to be charged a fee to create a fund purging the State of illegal practitioners when as a matter of fact this duty devolves upon the State and not upon the medical profession. Ridding the State of illegal and incompetent practitioners is a measure purely in the interest of the people who should pay for it and not have it placed as an extra tax upon the medical profession.

Ninth. It is unnecessary as the police power already exists for the control of practitioners not duly licensed. More law is not needed but better enforcement of existing law is.

Tenth. It is demeaning to a great and noble profession in its requirements as to filing of photographs. Why not finger prints?

Eleventh. It will cause expense and inconvenience with no proportionate return to the public or to the profession.

Twelfth. It is a humiliating and absurd proposition, this annual re-registration and the fee of $2.00 for the privilege of anncuncing to your beloved people, who have known you to be a Doctor for a score or more of years, that given life and health and the gracious permission of the clerk to whom you proffer your $2.00 fee, you expect to continue to be a Doctor for the ensuing year.

CHIROPRACTOR CONVICTED OF MANSLAUGHTER — DISTRICT ATTORNEY HAS RENDERED A GREAT PUBLIC SERVICE — HE SHOWS WHAT THE LAW CAN DO TO A CHIROPRACTOR WHO, BLIND TO ESTABLISHED SCIENTIFIC FACTS, GAMBLES WITH HUMAN LIFE AND LOSES.

In the legal department of the *New York State Journal of Medicine* George W. Whiteside

reports the case of a chiropractor convicted of manslaughter. The following is the report:

Chiropractors who undertake by scientific principles to treat serious diseases which they are unable properly to diagnose need no longer expect to have their poor deluded patients die on their hands without suffering conviction of felony and imprisonment in state's prison.

A most salutary precedent has been established in Brooklyn by the conviction for manslaughter in the second degree of Ernest G. J. Meyer, a Palmer school graduate who treated a six year old child who had diphtheria, by adjusting the sixth cervical and the fourth and eleventh dorsal vertebrae.

A jury in the Supreme Court in Kings County, presided over by Justice William F. Hagarty, on April 8, 1924, returned a verdict of manslaughter in the second degree against Meyer after about thirty-five minutes deliberation. Manslaughter is a degree of homicide less than murder, not being justifiable or excusable, and in the second degree is committed without design to effect death "by any act, procurement or culpable negligence of any person." This crime is punishable by imprisonment in a state's prison not exceeding fifteen years or by a fine of not more than one thousand dollars, or by both. This conviction, the first in this state of its kind, was procured by the office of District Attorney Charles Dodd of Kings County with the aid of his assistants, George F. Palmer, Jr., and leading trial counsel, James I. Cuff. These able and unfaltering public servants have given evidence, not only of faithful public service in this case, but of unusual and original legal acumen in blazing a new path in criminal jurisprudence that should serve as a model throughout this state and which, if followed by other district attorneys, will give a protection to the public that is sorely needed.

To convict it was necessary for the District Attorney to prove that Meyer, by his acts of culpable negligence, had caused the death of the deceased.

Ernest G. J. Meyer, twenty-nine years of age, of good appearance and family, a graduate of a local high school in Brooklyn, completed a two-year course in the Palmer School of Chiropractic in 1921 and took up his practice in Brooklyn. He had close personal relations with the mother and father of the deceased, Caroline Germuth, a child of about five years of age, of 450, 41st Street, Brooklyn. During the early infancy of this child he had given it chiropractic adjustments of the spine from time to time to correct the hanging of the child's head over on one side. On December 13, 1923, little Caroline became sick during the night, was restless, had pain in the chest and evidences of fever. The following day, which was Friday, the defendant Meyer gave the child two chiropractic adjustments by pushing or adjusting the sixth cervical and the fourth and eleventh dorsal vertebrae. She was at that time so sick that he stated that he would come a third time that day. He did come again at which time the side of the neck of the child was visibly swollen and he continued the adjustments. The following day he made a visit in the morning and one at night, each time giving similar adjustments. The child was becoming progressively worse suffering from very labored breathing, in fact she was gasping for breath. The father of the child asked the defendant if he did not think it wise to call in a medical doctor and if the defendant thought that he could take proper care of the case. The defendant did not advise the calling in of a medical doctor and stated that he could take care of the case satisfactorily. During the day the swelling went down somewhat and on the following day, Sunday, the defendant called again. He said that the child was suffering from swollen tonsils and swollen glands and a stoppage of the nasal passages. By the afternoon of that day the child became unconscious and a neighbor who was present, suggested to the chiropractor that she thought the child had diptheria. When the child was practicaly dead the defendant suggested calling a medical doctor. The father then called Dr. C. L. Dance who examined the child and found that it had a temperature of 104 degrees, membrane very much diffusd so that it was practically impossible to examine the throat and the heart action so faint and rapid as to be hardly perceptible. Dr. Dance immediately gave 10,000 units of antitoxin by intramuscular injection in the buttocks and remained with the child until it died that evening.

As the death certificate states that the child had been under the care of an unlicensed practitioner prior to death, the health authorities sent a representative who took a culture of the throat of the deceased which showed the presence of Klebs-Loffler bacilli. Investigation by the health authorities disclosed that there were three other small children in the family who had been in contact with the deceased, one of whom had been sleeping with her while Meyer, the chiropractor was in attendance.

Dr. Moench of the Medical Examiner's office, made a post mortem examination and found indisputable evidence of death from pharyngeal diphtheria.

The case came to the attention of District Attorney Dodd shortly before Christmas and he received in his investigation little aid from the parents of the child. District Attorney Dodd realized that he could readily convict Meyer of the misdemeanor of practicing medicine without a license, but he did not feel that he was justified in letting this man off with a misdemeanor conviction when his act of culpable negligence had caused the girl's death. Although he had no precedent in this case to guide him, he had the case presented by his assistants, Mr. Palmer and Mr. Cuff, to the Grand Jury and asked for an indictment for manslaughter. Without delay the case was brought to trial in April by Assistant District Attorney Cuff. He proved the facts as above stated and called Dr. Joseph C. Regan, assistant resident physician of the Kingston Avenue Hospital for Contagious Diseases in Brooklyn, as the medical expert for the people. Through Dr. Regan it was shown that this child had suffered from diphtheria from December 12, when the defendant first saw her, and that Dr. Dance's treatment when he was called as the child was about to die was the proper

treatment in the case, and that the manipulations of the defendant and failure to administer antitoxin had permitted the toxins of the disease so to affect the child's nervous system and heart as to cause inevitable death. It was by this proof that the District Attorney contended that this chiropractor was guilty of culpable negligence in causing the death of the child.

The defense tried to absolve Meyer of responsibility for the child's death, and put forth the claim that the administration of the antitoxin had caused death from shock, and offered as a medical witness to support this theory a Dr. Frank R. Weston of LaCrosse, Wisconsin, who stated that he had graduated from the Rush Medical College of Chicago in 1894.

He testified in part, as follows:

Direct Examination by Mr. Morris:

Q. Is there any distinctive symptoms by which diphtheria can be recognized? A. No. sir.

Q. By observation or what is spoken of as a clinical examination? A. No, sir.

* * *

Q. Now, in reference to the throat itself, what are some of the observable symptoms? A. Generally a membrane on the fauces of the throat, or on the tonsil.

* * *

Q. Now, take the enlargement of the throat, swelling of the throat or neck. You have heard the testimony in this case? A. Yes, sir.

* * *

Q. Is there anything distinctive about that? A. No, sir.

* * *

Q. Then there would be nothing typical about that or distinctive about that in any way to indicate the presence of diphtheria? A. No, sir.

Q. Is it possible, in your opinion, for a person to have diphtheria, a child to have diphtheria and die of it without its being recognized by a physician of average skill? A. Yes, sir.

* * *

Q. Now, if it (antitoxin) is injected into the muscles and given late, then what would you expect as the result? A. I would not expect much of a result because it takes twenty-four hours to be effective, if it is injected into the muscles.

* * *

Cross-examination by Mr. Cuff:

Q. What text writers are you familiar with? A. Stevens.

* * *

Q. Oh, that is a general subject or book covering a lot of things? A. Yes, sir.

* * *

Q. Now, you want to tell or convey to this jury the impression that the administration of this injection of antitoxin intramuscularly was really what might have caused the death of this child? A. It might be in its weakened condition.

Q. In half an hour? A. Yes.

Q. Now, let us see; how many times have you administered antitoxin? A. Oh, probably 40 or 50 times.

Q. How long is it since you administered antitoxin? A. Ten years.

* * *

Q. How many times have you testified in these chiropractic cases? A. Oh, probably four or five times.

* * *

Q. When was the last time you testified? A. I think I was in Salt Lake City in February.

* * *

Q. When before that did you testify for the last time? A. I think in St. Paul, Minnesota, in May of last year.

* * *

Q. You are being paid? A. I expect to be paid.

Q. You have been paid in the past? A. Yes, sir.

* * *

Q. Back in the spring of 1923 you testified in Jackson, Michigan. When before that did you testify for the chiropractors? A. I have in South Bend, Indiana, but I don't remember when it was.

Q. And before that where? A. In El Paso, Texas.

* * *

The defense then endeavored to justify the treatment on chiropractic principles and offered as an expert witness a national lecturer of the Universal Chiropractic Association, James G. Greggerson, who testified that the treatment given by the defendant of adjusting the spine was proper chiropractic treatment for the condition. Cross-examination developed that this witness had been a private in the army and in civil life had been a salesman, had no education beyond a common school course and had completed a fourteen months course in the Palmer School of Chiropractic and that according to chiropractic principles it was not necessary to know what the matter was with a patient in order to give treatment.

* * *

Cross-examination by Mr. Cuff:

Q. Mr. Greggerson, of course it is not material, in your estimation of this situation, that Mr. Meyer did not know what the trouble with the child was, is it? A. No, sir.

Q. And yet in the face of the fact that Mr. Meyer said that he did not know, and never knew until after the death of the child, that the child had diphtheria, you still say that your answer does not consider that of any moment? A. Yes, sir.

Q. You are in the pay of the Chiropractors' Association, are you not? A. Yes, sir.

Q. And you travel all around the country lecturing and testifying for them, don't you? A. Well, I travel around the country lecturing for them.

Q. And testifying? A. I have been on the stand before.

Q. You get your vacations at their expense, too, don't you? A. No, sir, this is my regular job—lecturing.

Q. Now you are lecturing for this association under salary? A. Yes, sir.

* * *

The defendant, testifying in his own behalf, admited that he did not know what the matter was with the child while he was treating her; that it was not necessary to know that in order to give chiropractic treatment; that diagnosis was not a necessary element upon which to predicate proper chiropractic treatment. ERNEST G. J. MEYER:

Direct Examination by Mr. Morris:

Q. What did you observe and what did you do when you were called there? A. I observed that the child was in a sick condition, and I made a digital examination of the spine.

Q. What did that examination of the spine disclose to you? A. It disclosed that the sixth cervical vertebrae, the fourth dorsal vertebrae and the eleventh dorsal vertebrae were out of alignment, causing pressure.

* * *

Q. After you made that examination, what did you do? A. I directed the mother to prepare the child for adjustment, put the child on the bench—the chiropractic adjusting bench—and proceeded to adjust the misaligned segments into normal position.

* * *

Cross-examination by Mr. Cuff:

Q. Did you know that the child had diphtheria? A. I didn't recognize it as diphtheria.

Q. You never knew, at any time during your treatment of the child, that it had diphtheria? A. No.

Q. And your system did not indicate to you that it had diphtheria, did it? A. I will say no.

Q. Mr. Meyer, do you realize that one of the primary and absolutely necessary essentials to the care of an ailment is the correct determination of what the ailment is? A. No.

* * *

Q. So that you do not need to know what the trouble is in order to cure it? A. We have the symptoms to go by.

Q. Will you answer that question specifically? A. No.

* * *

It may be said that this case was fairly won on the merits and that, while the child died shortly before Christmas and on Christmas day the mother had spent her time in visiting the child's grave, Mr. Cuff in summing up for the District Attorney ignored this appeal of sympathy and presented his case on the broad principles of justice and called upon the jury to perform their sworn duty to decide the guilt or innocence of the defendant according to law, citing the law as laid down in our Appellate Courts as well as in the United States Supreme Court, holding that few professions require more careful preparation by one who seeks to enter it than that of medicine, and that it has been the practice since time immemorial in this regard to exact a certain degree of skill and learning upon which the community may confidently rely, and that no one has the right to practice medicine without having the necessary qualifications of learning and skill; and that the statute requires that whoever assumes, by offering to the community his services as a physician, that he possesses such learning and skill, must present evidence that he has a certificate or license from the state qualifying him to practice.

The issue was squarely raised, therefore, that the defendant in the treatment by chiropractic methods in this case was practicing medicine; that he was not licensed so to do, and that through his lack of qualification, and unlawful assumption of authority to treat the sick, was guilty of culpable negligence resulting in death.

Justice William F. Hagarty, in charging the jury, charged directly that the acts admitted by the defendant in the treatment of the child constituted the practice of medicine, and as the defendant was not licensed such practice was in violation of the law, and submitted to the jury three main propositions for consideration. First, did the deceased child have diphtheria; second, was the defendant guilty of negligence in any respect, and third, whether his negligence was the competent proximate producing cause of the child's death, and that all three of these elements must first be found in the affirmative by the jury beyond a reasonable doubt before they could find the defendant guilty.

The defendant had a fair trial by the court and was given every opportunity by the District Attorney to absolve himself from criminal responsibility, and the case was decided not upon extraneous or sympathetic grounds, but upon the law and the evidence. It may well be said that in this result District Attorney Dodd and his able assistants, particularly the trial counsel, Mr. Cuff, have rendered a great public service.

This case clearly proves that the Universal Chiropractic Association, a national body of chiropractors, lends its support by furnishing counsel and witnesses to aid its members, who admit they are violators of our health laws, to defeat the efforts of our prosecutors in the enforcement of the law for the safety and health of the community. This combination should nont be permitted to carry on such efforts in this state.

One efficient and zealous district attorney has shown what the law can do to the chiropractor who, blind to established scientific facts, gambles with human life and loses.

Enforcement of the public health law against unlicensed practiticners throughout the state will effectively stop this gamble with the lives of its people. Every district attorney in this state is now confronted with a duty in this matter to protect the community by the exercise of the power which the law gives.

G. W. W.

WHERE THE INSPIRATION FOR SHEPPARD-TOWNER LEGISLATION ORIGINATED. MME. KOLONTAI HEAD OF THE DEPARTMENT OF RUSSIA'S CHILD WELFARE. THE SOVIET GOVERNMENT ADMITS THE NATIONALIZATION OF CHILDREN IS A FAILURE.

John Clayton, *Chicago Tribune* foreign news service, in the March 30, 1924, issue of the *Chicago Tribune*, says:

800,000 SOVIET CHILDREN MADE DRINK VICTIMS

Nationalization Taints and Kills Tots

BERLIN, March 29.—Eight hundred thousand Russian children of 5 to 15 years are homeless, starving, and debauched, having been dragged down to a hell on earth by the soviet government's nationalization of children policy inaugurated four years ago at Moscow.

Out of the plan for the state to house, train, and develop the youth of Russia has come a terrible condition of debauchery, drunkenness, prostitution theft, highway robbery, and even murder.

Ten thousand of these children have contracted venereal diseases before reaching the age of 15. Sixty per cent are alcoholics, many are dope fiends, and all are underdeveloped, warped and physically and morally ruined for any further usefulness to the state.

SOVIET'S OWN REPORT

From Moscow *The Tribune* learns that 2,347 cases of venereal diseases were found among beggar girls of 10 to 14 years during the month of February alone. At a conference to consider the conditions of these children, the widow of Lenin admitted that during February in Petrograd alone 1,200 children were found in the street dead from starvation and cold.

These conditions were disclosed by an official investigation conducted by the soviet government.

Four years ago the soviet government embarked its policy of state homes for all children. At the inauguration, Mme. Kolontai, mistress of the notorious sailor-bolshevik leader, Mebenko, who recently was made soviet minister to Norway, was named head of the department of child welfare.

In the first interview she granted in her new capacity she told me of her plans for the future. Her dream (it could only have been the dream of a woman to whom children who accidentally resulted from carelessness in the sex life of men and women were a nuisance) was that the state should care for all children, house them, train them in communistic ideals, and permit their parents to see them once a month if they desired.

THOUSANDS TURNED INTO STREETS

During the period of the famine, several hundred thousand children were taken from their parents and placed in government homes in various Russian cities. When funds ran low the soviets, with their usual cynicism, turned them into the streets to beg, starve, or steal. These children were joined by others who had lost their parents through civil war, execution, or famine until the huge total of today was reached.

They have died in hosts from dysentery, cholera, and starvation. Their little lifeless bodies have been found frozen to death in freight cars, packing cases, and market baskets, or in the doorways of governmental buildings throughout Russia. The soviet authorities admit that 6,000 of them were frozen to death in Moscow and Petrograd alone last winter.

Dr. Rathmer, a member of the investigating committee, told government officials who have at last decided that for the good of the party conditions must be remedied, that more than 450,000 of the "nationalized" children were addicted to the use of alcohol, and a large percentage snuffed cocaine.

"Young girls of 9 have become prostitutes and boys that young pederasts," wrote Dr. Rathner in his report. "All need medical help. Children 12 years of age whom we examined have the bodies of normal children of 6 or 7. We estimate that 90,000 are ill with syphilis or other venereal diseases. We cannot bring these children into soviet homes. They are in such a diseased condition that they would create a danger to the healthy children in the homes."

NOTE:—For a long time the ILLINOIS MEDICAL JOURNAL unaided fought the adoption of the Russian maternity system of Madam Kolontai in this country, a scheme that was widely heralded and ingeniously advocated and propagandized at the tax payers' expense by the Children's Bureau in Washington. In our issue of January, 1923, we had the following comment:

The Children's Bureau, which is to have large sums annually from the Federal treasury for propaganda purposes, if the bill passes, has already issued a booklet at the expense of the tax payers, "Maternity Benefit Systems in Certain Foreign Countries" which is socialistic and bolshevistic in almost every line. This book gives unqualified endorsement to a socialists' book by Madam Kolontai, a Russian woman in the pay of Germany, who is "commissar of Public Welfare" under Lenin (see documents 1 and 7 issued by United States Bureau of Public Information, September, 1918). The work of her department, in taking children away from their parents and herding them together in the "care" of the soviet government, has had such disastrous results, notably with little girls, that it has been characterized by a distinguished Russian, Professor Boris Sokoloff, *as a crime which knows no parallel in the history of the world.* They have destroyed morally as well as physically a whole Russian generation. Sir Paul Dukes says, that the central tragedy of Russia today is the results of Bolshevist corruption of children under Madam Kolontai's "welfare" and "maternity" system and finally it is to these dream book artists in the guise of uplifters who are always trying to enact laws like

the Russian system alluded to that we are expected to turn over the practice of medicine as well as the care, control and ownership of our American children. O Tempora. O Mores.

A DOCTOR IN 57 DAYS

Harry T. Brundidge, a reporter on the *St. Louis Star,* the man who exposed the quack diploma mill in *Collier's Weekly,* April 25, 1924, tells about the working of the bogus diploma mills scheme. The following paragraph is typical of the article in general and is reproduced for educational purposes:

Sutcliffe recently sat in the executive chamber of the State capital at Hartford and confessed to Governor Charles A. Templeton and this writer that he was a "mill-made doctor." He told how he bought his diploma falsely attesting graduation from high school and how he also bought two medical diplomas and a license to practice medicine in Connecticut. He has since been convicted of manslaughter.

I know of many similar tragedies. There will be others. Until the diploma mill ring is smashed and the last quack deprived of his purchased sheepskin, the technical phraseology of death certificates will continue hiding the awful blunders of quack doctors.

Mechanics, drug clerks, actors, bartenders, grocer's clerks, street-car motormen, electricians, prize fighters, photographers—men and women from all walks of life—enter the mill, leave their money and come out doctors of medicine and masters of surgery. Think of calling to the bedside of your wife a man who abandoned his career as the driver of a laundry wagon to take up the practice of medicine.

Imagine yourself knowingly placing the life of a sick child in the hands of a sign painter who purchased his right to practice medicine from the diploma mill ring! Think of being treated by me—a newspaper reporter who became a doctor of medicine in fifty-seven days and a doctor of chiropractic in seventy-two hours.

My medical qualifications cost $1,350, but the price of my pretty chiropractic diploma, together with charts, textbooks, a course of instruction, and a table upon which to wrench the spines of unfortunate victims, was but $89.50.

FIFTY-NINE VARIETIES OF MEDICAL PRACTICE

The Healing Art

The following was taken from the *New York State Journal of Medicine* for February 22, 1924:

"How many different systems of health and of healing cults can you name? The *Brooklyn Eagle* of February 15, 1924, contains a list of fifty-nine different methods of medical practice and cures. This list had been compiled by Health Commissioner Frank J. Monoghan as the result of a request that citizens send him information and complaints about irregular medical practitioners. Dr. Monoghan's list is as follows:

"Aero-therapy"	"Leonic" healers
"Astral" healers	Mental and spiritual healing
"Autothermy"	
Beautifier establishments	Medical gymnast
"Biodynamo-chromatic" therapy	Mechano-therapy
	"Naturologist"
"Blood" specialists	"Natureopath"
Bone setters	"Neuro-therapy"
Cancer "cures"	"Naprapath"
"Chromo-therapy"	Optical institutes
"Christos" (blood washers)	Obesity curers
	"Psycho-analyst"
Christian Science	Patent medicine men
"Chromopathy"	"Photo-therapy"
Couéists	Physical culture
Diet-therapy	"Physio-therapy"
Diathermy	"Psycho-therapy"
"Drugless healers"	"Practo-therapy"
Electro-therapy	"Quartz-therapy"
Electrotonic methods	"Spondylo-therapy"
Electric light diagnosis	"Sani-practor"
"Electryonic" methods	"Spectrocrome"
"Electro-homeopathy"	Special food faddists
"Electronapro-therapy"	Special drug faddists
"Geo-therapy"	"Spectro-therapy"
Hypnotist	"Tropho-therapy"
Hydro-therapy	"Telathermy"
Herbalist	Vacuum and serum "cures"
Helio-therapy	
"Irido-therapy" diagnosticians	"Vitopath"
	"Zodiac-therapy"
Kneipp cure	"Zonet-therapy"

"This list does not include chiropractic or new thought. It also totally ignores the old grandmother remedies, and the jumbled advice given by practical nurses, which lack only classification and advertising to be raised into the dignity of cults."

WHEN PREPARING PAPERS FOR PUBLICATION IN THE ILLINOIS MEDICAL JOURNAL OBSERVE THE FOLLOWING:

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SUGGESTED DIRECTIONS FOR PREPARATION OF AUTHORS' ABSTRACTS

J. R. SCHRAMM, M. D.
National Research Council

Authors' abstracts published with articles should fulfill at least two important functions:

1. They should enable readers to determine quickly and *accurately* what is contained in the corresponding articles.

2. They should serve as adequate abstracts for the abstracting journal or journals, and also as the basis of the latter's, or any other, subject index of the original articles.

Special attention is called to the following essential considerations to be kept in mind in preparing the abstracts:

EMPHASIS:—Since abstracts are used extensively to direct readers currently to those articles containing *any* contributions inviting or requiring their critical first-hand attention, the abstract must not fail to give concisely in considerable detail:

1. The *new information* (both the topics, major and minor, concerning which new information is presented, and, in brief, the new information itself), be it additions to knowledge; new applications of known facts or principles, or applications of such known facts or principles under new or different circumstances; new interpretations, theories, or hypotheses; or any other information based on observation, calculation, experiment, interpretation, etc., and which is not compiled from already published information known to the author. Compilations of known facts, résumés of literature, bibliographies, etc., when extensive, should be noted very briefly in the abstract. The abstract should be so worded as to distinguish clearly between original contributions and other material in the article.

2. The *methods employed*, if any. It is often as important to know the methods as to know the results.

The indexes of abstracting journals are increasingly important in reference work. *These indexes are prepared exclusively from the abstracts.* It follows that what is not in the abstract can not find its way into the index and thus is in danger of being lost. This is an equally important reason why the adequate abstract must include mention of all entities concerning which new information is presented, such as organisms (by full scientific name wherever possible, including authority); processes; phenomena; factors, structures; organs; chemical, physical, or biological entities; geographical areas; relations; methods; theories; hypotheses; applications; uses; etc.; etc.

LENGTH:—Although cost of publication and the readers' limited time require that abstracts be as brief as possible, no arbitrary limit is placed on length. The abstract should be as long as necessary to fulfill their purposes. It is obviously easier for editors to shorten abstracts, where this can be done without injury, than to supply missing information.

STYLE:—*Only complete concise sentences should be used; telegraphic style*, because of its ambiguity, should be strictly *avoided*. Tables should not be used or only in very exceptional cases.

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A. R. Metz
E. P. S. Miller
J. T. Meyer
Jacob Myers
Frank R. Maurer
G. Henry Mundt
W. E. Morgan
L. Maywit
E. W. Mueller
Karl A. Meyer
V. F. Masilko
G. L. McWhorter
G. P. Miller
Frank G. Murphy
Frederick E. Munch
A. N. Moore
E. E. Moore
S. B. MacLeod
H. N. MacKechnie
L. L. McArthur
Geo. H. Musselman
Frank F. Maple
John K. McQuarrie
Frank J. Novak
O. E. Nadeau
John Nuzum
J. S. Nagel
Ed. Ochsner
A. J. Ochsner
Albert N. Oyen
G. L. Otroskey
H. G. Ohls
G. G. O'Brien
W. S. Orth
John T. O'Connell
H. D. Orr
W. J. Pickett
W. E. Potter
John L. Porter
A. J. Prominski
T. W. Parsche
L. B. Phelps
Theo. J. Peterson
S. G. Plice
Joseph M. Patton
M. Penchina
S. C. Plummer
F. M. Phifer
Brown Pusey
R. M. Phillips
John Pflock
R. W. Peterson
W. A. Pusey
Carl R. Peterson
N. M. Percy
Edward Patera
J. Thomas Pickerill
S. F. Przygocki
P. G. Puterbaugh
Joseph Prendergast
E. M. Pohl
John F. M. Porter
W. A. Plice
Charles H. Phifer
Frank J. Pokerney
F. J. Patera
J. F. Quirk
Harold A. Rosenbaum

M. M. Ritter
E. W. Ryerson
B. Rappaport
E. R. Reynolds
F. A. Ring
C. H. Roan
W. A. Ribbeck
H. H. Ritenhouse
J. B. Ross
J. W. Russell
G. L. Rulifson
Geo. W. Rezanka
Anthony Rud
J. E. Rowan
E. E. Reininger
Frank J. Resch
R. L. Reynolds
Nils Remmen
Sol Rosenblatt
L. W. Rosenbaum
T. E. Roberts
Harold H. Roberts
John A. Robison
H. A. Ramser
O. T. Roberg
E. Ries
R. A. Rutz
Lawrence Ryan
S. H. Soboroff
C. F. Sawyer
L. C. Schulze
M. J. Sullivan
A. W. Stillians
V. L. Sheets
Alva L. Sawyer
I. F. Stein
Chas. Segal
Otto L. Schmidt
Charles E. Scharf
Edward F. Slavik
Philo F. Snyder
Sylvia A. Sciarretta
W. F. Scott
W. G. Stearns
Joseph Semerak
Vesper Shaffer
C. B. Semarak
Robert Sonnenschein
Andra L. Stapler
C. A. Schneider
E. S. Stewart
Carl G. Swenson
H. J. Stewart
Charles P. Schell
V. A. Simpkus
Arthur S. Sandler
Grant W. Sill
A. M. Stobe
John J. Sprafka
Wm. J. Siegler
Frank Smithies
John J. Stoll
A. C. Strunk
Carl F. Steinhoff
F. H. Steinhoff
H. J. Smejkal
Chas. L. Schmidt
Wm. H. Smith
F. E. Simpson
A. M. Shaw
Elmer E. Simpson
Chas. A. Stevens
A. W. Stillians
L. Ernest Schwarz
C. K. Stulik
M. J. Seifert
Hugh R. Schofield
Bertram W. Sippy
C. Pruyn Stringfield
F. S. Selby
R. C. Steffen
Samuel Stein
Charles E. Sceleth
A. E. Stewart
Samuel Salinger
F. H. Schroeder
A. W. Seidel
B. D. Satek
H. Schmitz
A. F. Stevenson
C. E. Stanbury
Charles Schott
Edward J. Secor
J. A. Stough
James W. Skebelsky
John W. Stanton
H. J. Stewart
Anna H. M. Sharpe
I. Trostler
E. D. Tallman
F. P. Thompson
E. E. Tansey
John W. Tope
John J. Theobald
G. D. Theobald
H. M. Thometz
Frank F. Trombly
W. M. Thomas
Geo. F. Thompson
Max Thorek
L. L. Turner
H. Tetler
J. W. Van Derslice
F. D. Vreeland
W. VanHook
R. L. Vilna
Walter Verity
R. Von der Heydt
Wm. S. White
S. A. Waterman
D. H. Wherritt
S. S. Winner
S. L. Weber
Joseph A. Waska
Will Walter
J. H. Walsh
E. W. Westland
Joseph Zabokrtsky
John A. Wesener
Charles Windmueller
H. L. Wallin
H. A. Ware
B. E. Walpert
M. S. Wien
J. T. Woof
C. F. Weinberger
A. W. Woods
Theo. B. Wood
G. V. Wyland
Edward Wrightsman
W. J. Wanninger
Joseph Welfeld
M. Robt. Weidner
P. Weigner
A. H. Waterman
T. G. Wallin
Geo. W. Webster
A. A. Whamond
H. Woehlck
E. Weber
C. J. Whalen
K. N. Wakeberg
F. F. Wisniewski
T. M. Wiersen
T. J. Williams
H. J. Way
J. C. Williams
F. G. Whamond
P. Wiegner
C. F. Yerger
A. Yuska
T. Z. Xelowski
H. Zaczeck
O. Zelezny
Lucius H. Zeuch

The proposed campaign cannot be prosecuted without funds; it must be supported by popular subscription. It is hoped that every doctor will subscribe to this worthy cause. Serious disease diverted from the incompetent will result in the saving of thousands of lives and will prevent much permanent invalidism.

This campaign will achieve two great objectives: A gradual, but ultimate restoration of the medical profession to its merited place in the public sympathy and confidence and the inestimable benefits to humanity through the consequent prevention of disease and the preservation of life.

For the convenience of those who have mislaid their letter of Appeal from the State Society, we hereby reproduce the pledge card:

Please sign and mail to the Illinois State Medical Society.

To the Officers of the Illinois State Medical Society and Members of the Council:

"I am in accord with the proposed newspaper educational campaign in the press of Illinois, unanimously adopted by the House of Delegates of the State Society at the 1922 meeting of the plan recommended by the Council of the Society, and as evidence of my desire to co-operate with the Officers of the Council and of the State Society, I hereby enclose my check for $..... to aid in defraying the expenses thereof:

Make Checks Payable to the Illinois State Medical Society.

Name..... .....M. D.

Street .....

City..... County.....

"Sign the above pledge card, make out a check payable to the Illinois State Medical Society and mail both in an envelope as follows:

From

.....

.....

.....

ILLINOIS STATE MEDICAL SOCIETY,
c/o Cashier, Broadway National Bank,
6371 Broadway, Chicago, Ill.
25 E. Washington St.,
Chicago, Ill. Lay Public Committee.

Correspondence

A VOICE CRYING IN THE WILDERNESS. BOLSHEVISM A MENACE TO MEDICAL SERVICE

Gibson City, Illinois,
April 17, 1924.

To the Editor:

I have been reading with interest the editorials which have appeared from time to time in the ILLINOIS MEDICAL JOURNAL during the last few years, relative to State Medicine, bolshevism and allied topics in your attempt to show their dangers to the future so far as they apply to the inferior medical service in store for the people of America under the systems mentioned.

While I agreed, in the main, with the spirit of antagonism to these socialistic documents, which your editorial so forcefully expressed, yet I felt that perhaps the actual menace was somewhat over-emphasized and that, after all, you were just "seeing things at night."

More recently, however, I have come to the conclusion that you are, in reality, "a voice crying in the wilderness" not only for the medical profession but for all one hundred per cent American citizens, as well.

So far as our own local society is concerned, I am proud to report that one of our members, who is fully awake to the situation, is now a member of the state legislature and has been found on the right side of questions that concern the welfare of the organized profession. We are also supporting a neighboring county society which is actively opposing a candidate who is believed to favor socialistic theories of government.

Let anyone who is skeptical that Bolshevistic propaganda is actually being broadcasted in America, read the leading article in the March fifteenth issue of the *Dearborn Independent*, entitled, "Are Women's Clubs being used by Bolshevists?" Here is beautifully demonstrated the process of "boring from within" which first showed its ugly head among the labor unions and is now attempting to lead the various women's organizations into all sorts of undemocratic, unpatriotic and wholly discreditable positions.

The rank and file of most of these women's clubs are probably composed of high-minded, patriotic women with a sincere desire to do something worth while in the world. It is quite likely that they do not realize what it is all about. When they do, I imagine there will be a real house cleaning, beginning at the top in a good many of them. Witness the spectacle at Decatur last November, during the biennial convention of the "National Council of Women," when the accredited delegates from the "Women's International League of Peace and Freedom" refused to salute the flag of their country!

So, in conclusion, I would say, "Keep up the fight; you are not yet over-shooting the mark!"

Cordially yours,

ROBERT N. LANE, M. D.,
President Ford Co. Medical Society.

THE WORTHLESS ENGLISH PANEL SYSTEM

CORRESPONDENCE:

At Sea, April 1, 1924.

To the Editor:

You doubtless will be surprised to hear from me at this time, but because of a conversation with the ship surgeon today I cannot resist writing to you. Our talk was regarding the panel physician's work in England where he practiced but says he will never practice under the panel system again.

The doctor claimed that the men working under the English health insurance plan are deteriorating into cathartic giving, small wound dressing doctors.

When work should run about one per cent (official figures) it runs up from 4 to 10 per cent for the reason that the doctor is called for the most minor ailments and a thing a medical man ordinarily would not be expected to be consulted about. In busy times the demands on physician's time are so great that he becomes a mere machine and doing a very poor grade of work. Finally, the ship surgeon said, "If you desire to see the practice of medicine become obsolete place it under the supervision of the state for a few years and the failure will be complete."

You know all and more than I have said concerning the menace known as compulsory health insurance, state practice of medicine, etc., but the words of the ship surgeon meant so much to me that I cannot refrain from communicating them to you.

GEORGE HENRY MUNDT, M. D.

THE AMERICAN RED CROSS

CHICAGO CHAPTER

58 E. WASHINGTON STREET, CHICAGO

Dear Sir:

The Chicago Chapter, American Red Cross, and the Boy Scouts of America, will need some physicians and senior medical students for their camps this summer.

At the Red Cross Hospital, Camp Roosevelt, Rolling Prairie, Indiana, the physicians are paid $100.00 per month, plus subsistence and transportation to and from the camp. This camp opens June 30th and closes August 16th.

At the Boy Scout Camps, Whitehall, Michi-

gan, the physicians are paid the same rate, and this camp opens June 23rd and closes August 30th. Some senior medical students are needed at this camp also.

At the Boy Scout Camp at Delavan, Wisconsin, a senior student is only required.

Students are paid $80.00 per month, plus subsistence and transportation.

The service calls for taking charge of the health, sanitation and some First Aid instruction. Camp periods will be divided to suit the convenience of the applicants.

Applications should contain information of experiences, schooling, etc., and sent to the undersigned or to the Boy Scout Headquarters, 37 S. Wabash Avenue.

Yours sincerely
H. W. GENTLES, M. B. C. M.,
Chairman, First Aid Committee,
Chicago Chapter, A. R. C.

THE HEAD OF THE PALMER SCHOOL OF CHIROPRACTIC WRITES A BOOK

B. J. Palmer, D. C., Ph. C., head of the Palmer School of Chiropractic, Davenport, Iowa, is the author of science of chiropractic. The Journal of the Kansas Medical Society in commenting on Volume I, has the following to say:

The D. C. and Ph. C., being interpreted, mean "Doctor of Chiropractic" and "Philosopher of Chiropractic", respectively.

Realizing the general need for enlightenment, we take pleasure in presenting a few extracts from this epoch-making treatise.

"To illustrate, it was decided that all diseases of the throat, such as goiter, croup, diphtheria, bronchitis, quinsy and tonsillitis, had their origin in the region of the stomach."

"Chiropractors are fixing typhoid fever and other acute diseases in one or two brief adjustments."

Referring to diphtheria: "Chiropractors find that bacilli are there as result as much as mold found on decaying cheese. . . The chiropractor replaces the displaced vertebrae by one move. . . . the symptoms known as diptheria cease."

"I do not know of a greater humbug than is perpetrated by persons, who outwardly appear sincere in their profession, any more than the contagion theory. . . . what abnormal power has a little bug, on the outside, when he gets inside? Think!"

"What is disease? This question is often asked by the thinking and unthinking alike, and has (outside of Chiropractic) never yet been answered definitely. Many theories have been offered. . . . but they are not of any practical value to a Chiropractor except as illustrations of the foolishness of the so-called 'Medical Science.'"

"Child-bed fever is always caused by a lumbar vertebra being displaced during childbirth."

Referring again to diphtheria: "We have checked the fun of doctors and saved children from being poisoned, by adjusting the vertebra that the pus poisoning was displacing."

"If yellow fever is conveyed from one person to another by the sting of a mosquito, where did the first yellow fever subject get the disease?"

"Smallpox and chickenpox are one and the same disease. A bad case of chickenpox is a mild case of smallpox. . . . In all cases that are classed as such, that we have had the privilege of examining, we have found a displacement of the fifth cervical, the replacing of which immediately returned all abnormal symptoms to normal."

And then the following regarding a man addicted to strong drink:

"At the forth* adjustment, he said, 'The odor coming from a saloon always had an inviting effect, so much so, that I sometimes could not resist the desire of going in and taking a drink; then I was in for a drunken spree. But now that smell is nauseating, repellent instead of inviting.'"

And to think that such knowledge can be acquired in a few weeks! (Health News, N. Y.)

*Original spelling.

IT DOES HAPPEN THAT WAY, SOMETIMES

In his "Best Stories in the World," Tom Masson tells of a successful business man who was describing his advance in the commercial world.

"I was clerking in a grocery store and making $9.00 a week," he said; "but like many other young men, I fell in with a bad crowd and was induced to gamble."

"And so you were tempted to take money which did not belong to you?" suggested the long-faced man.

"No," replied the successful merchant, thoughtfully. "I won enough in a week to buy the grocery."

A TRUE OPTIMIST

He was very poor, but he had won the love of the millionaire's daughter, and had come to ask her father for her hand.

"Well," asked the father in a very discouraging tone of voice, "what are your prospects? Is there any chance for advancement in the line of work in which you are now engaged?"

"Is there an chance?" said the young man. I should say there is some chance. Why, sir, the establishment where I work employs 22,000 men and my job is next to the lowest in the place!"

THE POWER OF THOUGHT

Every time she thinks of sugar, a lump comes up in her throat.

Original Articles

DIFFERENTIATION BETWEEN THE QUICK AND THE DEAD*

GEORGE W. CRILE, M.D.,
Cleveland Clinic
CLEVELAND, OHIO

Daily the physician is called to see patients prostrated by accident, by hemorrhage, by wasting disease. Daily in the hospital wards are encountered patients whose shrunken, dejected faces, depressed circulation, failing respiration, cold clammy skin, extreme muscular and mental weakness betray the fact that unless some immediate method of restoration is applied, the prostration will progress to dissolution.

As the physician views these prostrated patients he is unable to visualize the mechanism that is failing. He has no premise on which to base a conception of the true cause of the picture before him. He does know that whatever the original or the continuing cause of the prostration, certain fundamental measures are required to accomplish restoration—rest and sleep, water, relief from pain, restoration of the per-minute circulation of blood through the master organs, and the return of the depressed or elevated temperature to the normal level. But in spite of his knowledge of methods of restoration, the physician cannot identify the fundamental mechanism which has been restored.

The processes of exhaustion may be so overwhelming as to overcome every effort to restore the patient. Thus, a patient with an acute hemorrhage may die shortly after his admission to the hospital; the hemorrhage does not explain the mechanism of death, it explains the cause of death. A patient may enter the hospital with acute hyperthyroidism and die; the cause of death is hyperthyroidism, but that fact does not explain the mechanism of death. Daily we see patients die from every kind of traumatism and from every type of disease, but whether the individual who dies is young or old; whether death is sudden and unexpected or is the result of protracted disease, in no instance does the cause of death give any clue to the mechanism of death.

What is the true pathology—what is the physiology of death? What is the physiology of restoration? The pathologist can describe accurately the organic changes which are associated with death, but he can tell us nothing about the mechanism whose failure has been the immediate cause of death. The physiologist can describe the functional changes which are present in exhaustion and the progressive functional variations during the process of restoration, but he cannot describe the processes themselves.

An analysis of the causes of this limitation in the knowledge of the pathologist and the physiologist makes it appear that while they have apparently reduced the structure of the organism to its lowest possible factors, the unit cells, the progress of their investigations has been checked by the assumption that the ultimate basis of the energy shown by each living cell is unknown and perforce must remain unknown. It would appear, therefore, that our understanding of the fundamental difference between the quick and the dead upon which any final interpretation of the operation of the organism must be based has been hopelessly checked by our failure to attack efficiently the problems presented by the transformations of energy—the life cycle—within the unit cells themselves.

In an attempt to solve this fundamental problem—to discover the method of operation of the unit cells of the organism, the fundamental basis for its vital activities, researches have been in progress in my laboratory for many years. The problem has been attacked successively by physiological, histological, physico-chemical, and biophysical methods. The findings have been constantly checked by clinical observations and each group of studies has been correlated with those which have preceded it.

As a result of these investigations, especially with the crowning evidence presented by the application of the exact methods of the physicist, we have been led to the belief that the unit cells of the organism are electro-chemical mechanisms; and that therefore the organism as a whole is an electro-chemical mechanism. The life and function of an electro-chemical mechanism depends upon the maintenance of a difference of potential between a part of highest potential and a part of lowest potential, with parts of varying potentials within the circuit, whereby selective activities may be effected. We have accumulated evidence which tends to support

*Read before the Inter-State Assembly of the Tri-State District Medical Association at Des Moines, Iowa, Oct. 29, 30, 31 and Nov. 1st.

the conception that in the animal organism the brain is the part of highest potential—the positive pole—and the liver the part of lowest potential—the negative pole. If this conception be sound, then it would follow that the mechanism of life and death could be interpreted in electro-chemical terms—variations in vitality being in direct relation to variations in potential.

In accordance with this conception, therefore, exhaustion is the result of a diminution of the difference of potential between the poles of the organism, this diminution being due primarily to a decrease in the potential in the brain, which in turn results from a decreased difference in the potential in its constituent cells. This conception explains the identity of the phenomena of exhaustion and the progressive stages of exhauston to "shock." When the difference in potential reaches zero, the organism is dead.

In accordance with this conception we have adopted certain fundamental principles as our guide in the protection and restoration of our patients. The maintenance of the integrity of electric cells of the type of these which constitute the animal organism require the following elements:

1. Abundant water.
2. Abundant oxygen.
3. Maintenance within a normal range of the permeability of semi-permeable membranes.
4. Maintenance of an optimum temperature.
5. Avoidance of prolonged continuous activity.
6. Rhythmic periods of comparative negativity for recharging.

In the human electro-chemical mechanism these requisites may be supplied by the following measures:

1. Abundant water is administered by mouth, by rectum, by hypodermoclysis.
2. Oxygenation is promoted by increasing the amount of blood in circulation by means of transfusion and by promoting the heart action by means of courses of digitalis.
3. The permeability of cell membranes is maintained within the normal range by the avoidance of lipoid-solvent anesthetics—ether and chloroform; by the use of nitrous oxid-oxygen anesthesia only to the stage of analgesia, placing the main reliance upon local anesthesia; by the infliction of minimum trauma; by the utmost possible avoidance of every physical and emotional disturbing factor.
4. An optimum temperature is maintained by the selective internal and external use of heating or cooling agents.
5. Prolonged continuous activity is avoided and a state of negativity is induced by environmental control and by narcotics.

As concrete illustrations of the practical application of these principles in the human electro-chemical mechanism, I wish to discuss the management of certain acute abdominal crises such as those suggested by our opening paragraph—patients who on their admission to the hospital have a thready pulse and an abdomen either distended and rigid or filled with fluid—pus or blood.

Contrary to the usual order of consideration, in such a case it is imperative first to be sure what not to do. Such a patient should not be operated upon immediately after admission to the hospital; he should not be taken from the admitting room to the operating room; he should not be given a general anesthetic; he should not be taken to the x-ray laboratory; he should not be subjected to physical examinations which might lead to further exhaustion.

All of these procedures may properly be employed in the case of a patient seen before the crisis has developed—in whom there still remains a fair margin of safety; but for the patient with a thready pulse, a rigid distended abdomen and cold moist extremities they are imperatively contraindicated.

Such a patient is sent at once to his bed; he is immediately given a quarter grain of morphin with 1/50 of a grain of atropin; he is immediately given large quantities of water—2000 to 4000 cc. by hypodermoclysis through two needles in the pectoral muscles; his blood is grouped immediately and he is given a blood transfusion without being moved from his bed; he is immediately placed in a modified Fowler's position; large hot abdominal packs are applied immediately; and if he is vomiting he is immediately given a gastric lavage.

If the patient is already in the early stage of dissolution, his condition will not be improved by these emergency measures. The pulse will become continuously fainter; the anxious psychic state will pass on to delirium, the delirium to unconsciousness, the unconsciousness to death.

On the other hand, if the process of dissolution is not initiated and the pulse and general condition of the patient shows improvement within the first hour, then a decompressing operation is performed in the patient's room without moving him from his bed.

Within this crucial first hour, certain observations which may be made are of special import. A subnormal rectal temperature or a leucopenia is ominous. In a case of hemorrhage, leucocytosis is of high importance as it appears earlier than a lowering of the blood count or of the hemoglobin estimation.

It is to be borne in mind that in these cases of course we have no previous estimation as a guide. The blood picture, the pulse, and auscultation of the abdomen, together with the history and the general picture presented by the patient are our only guides.

The limited objective of this decompression operation depends upon the primary cause of the crisis, the imperative caution in each case being to quit the moment that objective has been achieved. Thus in a case of gangrenous appendicitis make no attempt to search for the appendix but establish drainage, and quit. In the case of a gangrenous gall bladder, make an incision over the center of the most tender and most rigid area, disturbing the new adhesions as little as possible, open the gall bladder, provide the simplest drainage, and quit. In a case of acute pancreatitis, establish drainage and quit. In the case of a perforating gastric or duodenal ulcer, suture the perforation, establish a suprapubic drain if there is much fluid, and quit—without performing a gastro-enterostomy. In the case of an extra-uterine pregnancy, evacuate the blood, excise the tube and quit. In the case of a ruptured spleen, if it is at all safe to do so, excise the spleen—otherwise use a mattress suture to prevent a recurrence of the hemorrhage. At any cost, a visceral perforation must either be closed or brought into the wound. In a case of grave intestinal obstruction, in accordance with the plan of Summers, decompress the small intestine at a high point to minimize absorption of the toxins, and quit.

Pursuant to the decompressing operation with its limited objective, the management of the patient is in accordance with the general plan briefly outlined above, viz.:

1. Modified Fowler's position.

2. Hot packs over the entire abdomen extending well down over the sides.

3. Fom 2,000 to 4,000 cc. or even more of water—Bartlett's solution—by hypodermoclysis each 24 hours.

4. The transfusion of blood, repeated if required.

5. Excepting in gall bladder lesions, and unless there is cyanosis, morphin in repeated doses until the respiratory rate is reduced to from 10 to 14 per minute.

6. Maintenance of utmost possible degree of negativity. To these positive points the following cautions should be added:

Avoid every needless disturbance of the patient.

Avoid any attempt to move the bowels in the acute stage of peritonitis. Use small enemata, not cathartics, after the acute stage has passed.

Avoid the continuance of morphin beyond the critical stage—but do not hesitate to give enough morphin until the critical stage has passed.

The importance of the time factor in these acute crises should be emphasized. It was noted in our war experience that with most abdominal wounds contamination progressed to infection in 10 hours; that the recovery rate of all operations performed within ten hours was practically uniform; but that the mortality rate of operations performed more than ten hours after the wound was received rose in geometric progression.

In cases of perforated gastric or duodenal ulcer, in particular, the most important single factor is the time factor.

In cases of ruptured appendix or ruptured gall bladder the time factor is of even more importance since in these cases pus is discharged into the peritoneal cavity.

Certain special points regarding the further control of certain specific emergencies may be added:

In a case of internal hemorrhage as from a gastric or duodenal ulcer its immediate arrest may be accomplished by utilizing the following principle in biologic adaptation:

As a defense against death from hemorrhage a mechanism has been evolved for increasing the coagulation of the blood as the death point approaches. It is logical, therefore, to utilize the fainting point clinically as an indication that the blood pressure is sufficiently low for the hemorrhage to be arrested by coagulation. The

patient being kept under continuous observation and control, an attempt is made to bring him to the fainting point by having him propped up nearly upright in bed. If the upright position does not produce blanching, a thready pulse and a moist forehead, then the blood may be sequestered in the extremities by adjusting a tourniquet around the thigh just tightly enough to block the venous but not the arterial flow. In this way enough blood may be tentatively removed from the general circulation to reduce the blood pressure until the fainting point is reached. The length of time this point should be maintained is empiric, but a brief period is sufficient to assure the formation of a secure clot at the bleeding point. Not only are the open vessels plugged but the patient has left in his body plenty of blood to flood the blanched brain when the bandages are released and the posture altered.

In a case of deep jaundice from biliary obstruction, if the gall bladder contains bile, its decompression should be accomplished slowly by an intermittent unclamping of the rubber drain. As noted above, morphin is contraindicated in jaundice for the reason that the function of the liver is depressed by narcotics, especially morphin.

In contrast with the limited objective attained by the primary treatment of these grave cases, if the patient is presented at a sufficiently early stage, he is taken at once to the operating room and a definitive operation for complete cure is performed.

In the presence of the slightest uncertainty as to the outcome, however, the patient should be given the advantage of the protective measures we have described, thus increasing his reserves *in advance* of the emergency.

An analysis of these methods of restoration will show that in each, aside from the operation indicated by the specific cause of the condition, the fundamental requirements for the maintenance of the difference of potential as outlined above have been the basis for our treatment.

The theory upon which the plan of management we have outlined is based was suggested by histological physico-chemical and bio-physical researches; our conviction as to the value of these procedures is based upon the experience of my associates and myself in 16,652 abdominal operations. During the past three and one-half years, the surgical mortality of 14,949 operations at Lakeside Hospital has been 1.8 per cent; of all operations performed during 1922 the mortality was 1.6 per cent. A separate statistical study of operations for acute abdominal conditions, acute appendicitis, gastroenterostomy and resection of the stomach, cholecystectomy and cholecystostomy, colostomy and resection of the large intestine, shows a mortality of 3.8 per cent, as compared with a former mortality of from 6 to 9 per cent. In the above group are included 141 operations for cancer of the large intestine including 51 resections with a mortality of 2.8 per cent. The former mortality in this group was 5.3 per cent.

The diminution in the post-operative morbidity which is even more striking than the diminution in the post-operative mortality cannot be stated in figures. It should be added that whereas formerly it was necessary to select patients according to their probable ability to withstand the operation, we now accept every patient in whom operation is anatomically possible unless the process of dissolution is actually initiated.

ARTERIAL HYPERTENSION; ITS SIGNIFICANCE AND ITS MANAGEMENT*

WILLIAM A. JENKINS, M. D.
Professor of Medicine and Clinical Medicine, University of Louisville, Medical Department
LOUISVILLE, KENTUCKY

The attempt to evaluate arterial hypertension, to account for its presence, and to determine its relationship to pathologic changes found in the various organs and tissues of the body is a question that has occupied the best minds in the medical profession for many years. And, while much progress has been made, and definite knowledge has been obtained, it may safely be stated that we are still far from the final and conclusive answer to this whole question.

The modern clinician in his daily work has been keenly alive to the practical phase of the subject. He sees the actual condition in all of its manifestations in his patients. The medical physiologist and the research worker have likewise conducted many elaborately planned and

*Read before The Inter-State Assembly of The Tri-State District Medical Association, Des Moines, Iowa, October 31, 1923.

carefully and scientifically supervised experiments with the end in view of unraveling some of the intricacies and determining some of the basic principles which underlie this perplexing question. That the representatives of the above mentioned classes of workers have contrived to at least keep themselves occupied, is attested by the flood of literature that has appeared during the last decade in the journals devoted to clinical, experimental and research medicine. It is quite evident that a legitimate and logical consideration of this subject should begin primarily with the cardio-vascular system.

Conditions of the heart muscle and the arterial system, in so far as their relation to arterial hypertension is concerned, are fairly well understood. There is more or less harmony and agreement among medical men regarding these matters. Such is not the case, however, when we come to the consideration of the capillaries. In the past relatively little importance was placed on the part played by the capillaries, either in normal physiologic processes or from the standpoint of their possibly being a starting point of pathology, which might ultimately affect the cardio-vascular system as a whole, as well as the organs fed by this same system. Formerly we thought that the control of the motor mechanism of the capillaries was identical with that of the arterioles. We considered that the sympathetic system controlled contraction of the capillaries and that fibres through the posterior spinal roots caused relaxation of the same. This was only a part of the truth. Some substances, such as adrenalin, will cause contraction of the arterioles but do not influence the capillaries at all. It now appears to be proved beyond doubt that the capillaries can contract and dilate independently of pressure variations in the arterioles. The trend of scientific opinion is now towards the belief that there is a purely local control mechanism for the capillaries. Said variations in control are brought about by action through a certain type of cell found in the capillary walls which is analogous to the unstriped muscles fibres of the arterioles. These cells are known as the "Rouget" cells. Physiological variations to meet certain demands, such as the contraction and relaxation of muscles at work, may take place over very wide spread areas. The same is true of the internal organs of the body while they are in a state of physiologic activity. It is not improbable that some type of hormone may be found to play considerable part in this activity. This gives us a new conception of the possibilities of the work of the capillaries, especially when we consider the enormous extent or area of the great capillary beds.

Considerations as far reaching and possessed of such potentialities as the above may in the not far distant future present us with some entirely new and highly important facts which will tend to give to the capillaries an importance equal to, if not even greater, than that of the heart or arteries in all conditions where the blood vascular system is implicated. We are indebted for at least the major part of the above mentioned clues and facts to Professor Krogh of the University of Copenhagen, whose original and scientific researches, together with his conclusions, will be found in detail in his various publications.

Etiology. In a study of the literature of this subject we find the factors enumerated as having a causative influence are about as follows: Hereditancy, diseases of the nervous system, endocrine disturbances; the menopause with its natural endocrine aberrations, worry, stress and overwork: and lastly toxines. The latter may be bacterial, metabolic, or chemical in derivation.

1. Hereditancy: We all know that in a certain degree, both mental and physical traits or peculiarities, are handed down from parent to offspring following a well known natural law "Like begets like." We do, therefore, inherit a certain tissue type, a vulnerability or susceptibility, on the part of a particular structure or organ. This tendency, as a matter of course, is almost negligible, when we consider our subject from its practical side.

2. Diseases of the Nervous System: While it is true that certain diseases of the nervous system tend to be accompanied by an increase in blood pressure, it is likewise true that this pressure is not of the sustained type. It varies with the other symptoms and usually subsides with improvement in the underlying condition. Hence we are not warranted in considering nervous diseases as a factor of any particular importance in causing permanent high blood pressure.

3. Endocrine Disturbances: This new field of endeavor, or rather this old field, in which a new and consuming interest has recently sprung up, has been very generously called upon to explain almost all the ills to which human flesh is heir.

Often times in women, at that peculiar period of physiological upset, viz., the menopause, where we have as an accompaniment a disturbed action of both the ovaries and the thyroid, which is easily recognized, we do have also a period of high blood pressure. Certain cases of pure hyperthyroidism (exophthalmic goiter) will also exhibit a type of hypertension. Yet these cases are comparatively few in number. They differ essentially in type from the condition under discussion. The blood pressure rise is variable, not constantly present, and in no way resembles a case of essential hypertension. Therefore, we cannot give the endocrines an important etiological role in our discussion.

4. Worry, Overwork and Stress: It would be hard, indeed, to conceive of any primary or direct method or way, by means of which worry, overwork, or stress could produce the condition in question. At most they could only act as a contributory factor by paving the way for the real underlying or exciting cause.

5. Toxines: It is a well known clinical fact that certain toxines carried by the blood stream are capable by prolonged action of bringing about a permanently high blood pressure and likewise changes of a sclerotic nature in the blood vessels themselves. As to origin, these toxines may arise from disease producing microorganisms (animal or vegetable), they may be metabolic in origin, or they may at least in part be the result of the prolonged action of certain chemical substances.

Bacterial toxines primarily derived from acute infections remaining present and acting over long periods of time, or from focal infections, concealed or obvious, constantly feeding toxines into the circulation, would probably by popular vote head the list as causative factors in the condition under consideration. There can be no doubt about this matter whatever. The connection is too direct and convincing. The majority of our doctors who have practiced medicine for twenty-five years can recall a number of cases in which every phase, every step, every symptom and every detail could be easily and distinctly traced; a good part of the process, perhaps, having enacted itself under the direct observation of the family doctor. Take the toxine of syphilis as an outstanding example. Here we are dealing with a toxic substance derived from a microorganism belonging to the animal kingdom. This toxine has a notoriously well known predilection for the entire blood vascular system. It may invade any part or the whole of this system. It usually shows all of the clinical symptoms and even its pathology bears the ear marks of, and can be recognized as, the result of spyhilis and so it is with many well known pathogenic microorganisms. Skilled and experienced laboratory workers have repeatedly produced blood vascular changes by introducing bacteria and bacterial products intravenously into rabbits.

Toxines of Metabolic Origin: Here the connecting links are a bit harder to visualize perhaps but the end result is just as convincing as it is in the case of the bacterial toxines. Protein fractions and closely allied substances are now known to be toxic in the human body under certain conditions. Many scientific observes, such as Dr. Victor Vaughan, believe that the toxic powers of bacteria are due to their protein fraction content, rather than to any distinctive specificity inherent in the bacteria themselves. Metabolism is a great study and it is yet in its infancy. We have only a very meager knowledge, indeed, of the intricate and profound changes which take place in the anabolic and catabolic phases of the metabolic curve. This highly efficient and very delicately organized chemical laboratory is easily thrown out of gear. Improper foods, more intake in food than the organism can burn up, any long continued interference with the processes of oxidation or elimination, any strictly internal interference with the physiological action of certain of the highly organized body cells, may serve to bring about certain strictly endogenous or inborn errors of metabolism which may be very far reaching in their consequences, while at the same time our knowledge of either these factors themselves, or their mode of action, would be practically nil.

Perhaps, a homely example would serve to illustrate the part disturbed metabolism plays in cardio-vascular disease. Mr. A., twenty-five years of age, country born and bred, strong of wind, lithe of limb, slender of waist, pink of cheek, the picture of health, a stranger to venereal disease, no serious illness in his past record; he comes to the city and goes into an office, he climbs rapidly, he is a demon for work (night and day), he marries an ambitious society girl, begets a large family, grows rich, becomes a power in the community, and has many important interests. He has no time, he says, for exercise, rest,

or recreation, "plenty of time for them after a while." We see him again at age fifty, twenty-five years later, he looks old, his skin is yellowish white, or sallow, he is bald, his abdominal measure is several inches greater than his chest measurement, he is short of breath on slight exertion, he smokes almost constantly, he is worried, and sleeps little. All that he has left of the heritage that he brought from the country with him is a good appetite, and that is now a curse to him as he can not possibly burn up half that he eats. His blood pressure is constantly high, systolic 160 or 180, diastolic 110. No albumin in his urine yet. A typical case of essential hypertension, or hyperpyesia (if that means anything to you) caused by perverted metabolism in its broadest and most comprehensive sense.

Laboratory experiments are described in the literature in which a series of individuals presenting first degree hypertension were placed on a diet containing an excess of nitrogenous products for period of a few weeks. The blood pressure was not raised and the blood chemistry did not show any accumulation of nitrogen split products. The percentages of urea, uric acid, and creatinin remained unchanged. Such experiments, however, prove nothing. If metabolic factors acted with sufficient rapidity to produce changes in the time limits mentioned above, the whole history of the disorder under discussion would be changed. The condition would be an acute, rather than a chronic one and the death rate from cardio-vascular conditions would be increased perhaps fifty per cent. It takes many years for metabolic factors to produce changes of any consequence. Cases such as the one cited above are neither uncommon or overdrawn. Their name is legion. Sometimes the symptoms vary a bit, the gastro-intestinal tract may be the chief offender; the individual has had intestinal symptoms for years; gas, indigestion, constipation, mushy foul stools, indicanuria, etc. On the other hand, we may observe a type of man, a mental worker, let us say; he has no bad habits, neither drinks or smokes, his venereal history is negative, yet he presents arterial hypertension. We may find that this man does not know what the word exercise means. He is thin, dried up, desiccated, constipated, he drinks very little water, he has frequent headaches, etc. The catabolic phase of his metabolic curve will be found badly deranged, and so it goes.

To verify the above we know that certain of the Chinese working classes, and likewise the laboring classes of India very commonly reach an advanced age in a fair state of health and show no particular hypertension or advanced arterial changes. They have no bad habits. They commit no excesses. Their food is of the simplest and it is taken in quantities sufficient to meet their bodily needs. They metabolize well. The anabolic and catabolic phases balance each other nicely.

Many observers lay great stress on salt intake as a factor in increasing blood pressure, while others are not impressed by the matter. Recent experiments by O'Hare and Walker at the Peter Bent Brigham Hospital demonstrate that there is no dependable relationship between blood chloride and high arterial pressure. We may have normal blood chloride and high arterial tension and conversely, we may have high blood chloride and low blood pressure. Toxines carried by the blood stream are the chief exciting causes of cardio-vascular diseases. All other factors may be classed as contributory or predisposing causes.

Symptomatology. The progress of the condition by stages, perhaps I can best illustrate by diagrams. Let diagram No. 1 represent the first

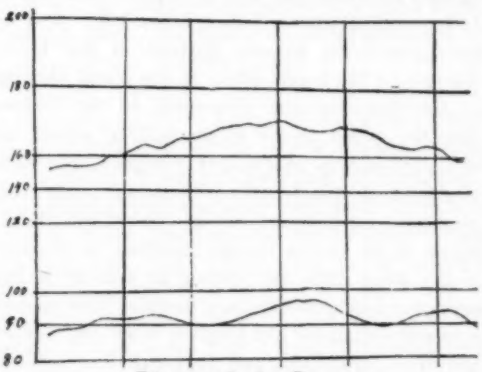

Diagram 1. 1st Stage

stage of hypertension. Here the diastolic pressure runs between 90 and 100, most of the time around 90. While the systolic pressure runs anywhere between 150 and 180, most of the time nearer 160. Toxines carried by the circulation increase the tonus of the small blood vessels, perhaps chiefly the capillaries. This makes an increase of peripheral resistance to overcome which the heart and arteries must do more work; hence the increase in systolic pressure. We may call

this the physiologic stage, the stage that is most amenable to management. There may be no pathology, certainly no grossly demonstrable pathology. As time goes on we come to the second

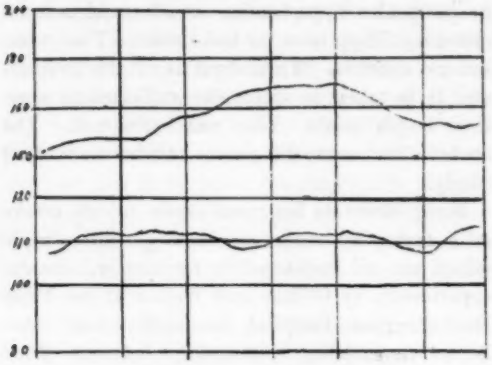

Diagram 2. 2d Stage

stage, represented by diagram No. 2. In the second stage of hypertension we find the diastolic pressure running around 110, sometimes slightly below the line, most of the time, however, it is more liable to be slightly above the line. The diastolic pressure is now showing a tendency to become fixed, or to express it more clearly, it rarely falls, usually it slowly rises, while the systolic pressure may run anywhere from 150 to 180, practically never falling below 150. Now we have constantly present toxines in the blood, changes in the composition of the blood, slowing of the blood stream, distention of the vessels, plus the added factor of mechanical strain, all of which induces nutritional changes in the walls of the blood vessels with consequent thickening, beginning most commonly in the subendothelial layers of the tunica intima resulting in invasion of the other coats and ending in a more or less widespread arterio-capillary fibrosis. This process is exactly what the old English observers, Sutton and Gull, described, and they called it arterio-capillary-fibrosis. Thoma in his studies called this angio-sclerosis. This whole progress, of course, requires many years for its establishment. It gradually and constantly progresses. For convenience of study only, I have suggested an arbitrary division into stages. In the earlier part of this stage the individual has, as a rule, no voluntary complaints. He may express himself as "feeling fine," possible he comes up for life insurance examination, the examiner finds his blood pressure too high; his kidneys may appear to be all right, as interpreted from one urinalysis. It is to this type of case that certain men apply the term essential hypertension or hyperpyesia. Why? Simply because they cannot feel any hardened arteries or demonstrate any gross pathology. Most life insurance men hold that a systolic pressure that remains constantly above 150 is pathologic. Personally, I am firmly convinced that they are correct.

Sir Clifford Allbutt reports a case of hyperpyesia which afterward came to autopsy. Findings as follows: hypertrophy and dilatation of the heart, interestitial fibrotic thickening of the liver and the kidneys, with arterio-sclerotic changes in both the liver and the kidneys. Diagram No. 3

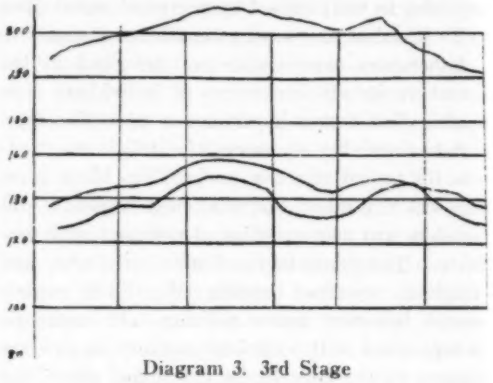

Diagram 3. 3rd Stage

represents the third stage of hypertension. Here the diastolic pressure runs between 120 and 140. Average 120 and 130. While the systolic pressure may vary anywhere from 180 to 220, or occasionally much higher, most of the time, however falling between 190 and 220. In this stage the underlying condition is now fully developed, and we can best understand its total symptomatology, as well as its possibilities and consequences by studying diagram No. 4, which illustrates schematically the whole process. In diagram No. 4 "A" represents the start of the process, the first sting of the causative toxine; the physiologic stage if you wish; the stage of essential hypertension. Here hypertension is the outstanding symptom, and other symptoms are either wanting or they are very hard to demonstrate. As time goes on we reach the point "B" where definite arterial and capillary changes have taken place, local or general. By this time we are, perhaps, able to demonstrate said arterial and capillary changes. Definite symptoms pointing to certain

organs or structures begin to show up. The diastolic curve of the blood pressure rises and tends to become fixed (it no longer falls to normal), and the systolic curve mounts still higher. Gradually we approach the point C. Here the abnormal blood pressure ratios and the generalized arterio-sclerosis stand out prominently, litally speaking for themselves and in addition thereto, we have definite groups of symptoms pointing to fibrotic and arterio-sclerotic changes in certain of the internal organs, e. g., arterial and fibrotic changes in the kidneys producing chronic Bright's disease; or the arteries of the

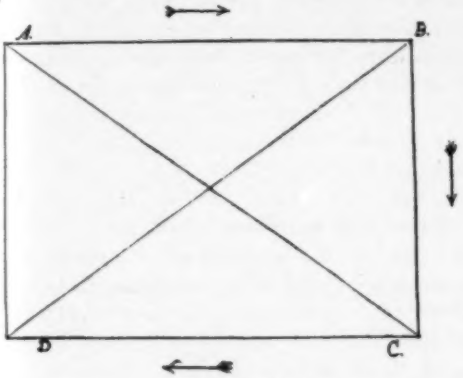

Diagram 4

A—Arterial Hyper-tension.
B—Arteriosclerosis.
C—Nephritis, Apoplexy, etc. Retinal, liver, lung changes.
D—Cardiac damage. Cardiac hypertrophy and dilatation. Cardiac failure and dropsy.

brain may bear the brunt of the attack with apoplexy, degeneration or softening; or chronic pulmonary conditions, such as an old long standing case of mitral stenosis with its long continued insult of passive congestion and fibrosis may be sufficiently prominent to exhibit pathology and symptomatology which may overshadow symptoms elsewhere; or it may be the liver, or the eyegrounds that will show changes most prominently. Now this brings us to the point "D" (the heart). It is easily seen that the heart has been overworked. It may be only a question of gradual compensatory hypertrophy and dilatation until the heart muscle has reached the limit of physiologic response. Now the heart muscle may gradually give way, weaken and allow some fall in pressure, or it may fail completely with dilatation, venous stasis and general dropsy. In addition to the above gradual process of hypertrophy and dilatation the heart muscle itself may show evidences of fibrotic or degenerative changes with coronary sclerosis. In the advanced stage of this process we have all possible combinations of the above factors, sometimes one stands out, again it is another, or, two or three may show prominently at the same time. The end may come by chronic nephritis, acute uremia complicating or apoplexy, cerebral hemorrhage, or cardiac decompensation with general venous stasis, general dropsy, pulmonary edema, and death.

Now the urologist, or the man who is interested particularly in the kidneys, has a case referred to him with kidney sclerosis as an outstanding factor. He thinks the kidney disease is the cause of the hypertension, blood vessel changes, and the cardiac hypertrophy. On the other hand, certain men believe that the condition of the heart and blood vessels and the hypertension causes the kidney disease. The specialist in nervous diseases frequently sees in his work a type of hypertension; therefore, he suggests nervous diseases as a cause. The endocrinologist meets the symptom hypertension in certain phases of his work (why not, the endocrines are the regulators of metabolism). He at once suggests the endocrines. And likewise the gynecologist with his series of cases going through the menopause (which is in good part endocrine in origin) meets this symptom. He makes his suggestion, and so this merry war of words goes on.

This all serves to remind me of a poem encountered in early childhood in one of the school readers of the period, it was written by Saxe, and entitled the "Blind Men and the Elephant." As you will recall the blind men made a personal visit to obtain first hand information concerning the elephant. One of them came in contact with the elephant's side, he thought the elephant was like a wall. One grasping a leg said "the elephant is very much like a tree." Another happening to take hold of an ear said, "It was quite plain the elephant was very much like a fan." And so they disputed, each in his own opinion exceeding stiff and strong, though each was partly in the right and all were in the wrong.

And so it is with the above classes of observers, each man describes the elephant as he has found it. The trouble with all of them is that they see from one angle only. They fail to visualize and study this process in its entirety.

Arterial hypertension is not *per se* a disease and

it should never be spoken of as such. Hypertension is only a symptom, just as jaundice and albuminuria are symptoms. It is true that it is an early, an outstanding, a prominent and, perhaps, even an important symptom, yet nevertheless a symptom, and there is always something behind it. In its more acute and irregular manifestations it is often a transient symptom of a great variety of conditions. Permanent or so-called essential hypertension is one of the symptoms of a wide spread disease of the cardio-vascular system as a whole. To which is superadded, sooner or later, a more or less general arterio-capillary fibrosis with late or terminal symptoms referable to one or more of the important internal organs of the body.

MANAGEMENT

Hypertension being only a symptom any attempt to force the blood pressure down without due regard to the underlying condition would be very poor and unscientific therapy. Such a procedure would be on a par with taking a patient having a positive Wassermann and treating the Wassermann test. It is the underlying condition that we must turn our attention to and then, perhaps, improvement may take place in the hypertensive and the other symptoms as well. There is a certain time or stage of the subject under consideration when we are confronted by an acute phase where prompt action may be necessary to save life, e. g., eclampsia or acute uremia. Here the old fashioned measure of blood letting is occasionally found to be of use. This measure eliminates some of the toxic material, it lowers the blood pressure quickly though temporarily, it gives the natural forces of the patient a chance to readjust themselves and the physician a chance to proceed with his therapeutic schedule. If you have withdrawn anywhere near a pint of blood, normal saline solution should be introduced (subcutaneously, intravenously, or by proctoclysis) to take its place. Again take the elderly man with a systolic pressure running from 220 to 240. He has severe continuous headache, he is constantly dizzy, he occasionally falls and may cut himself about the head. Judicious blood letting may prevent a cerebral hemorrhage in this type of case. However, the above measure belongs in the emergency class. Its use is occasional and its value temporary. Our attention shall be chiefly directed to the type of cases which show sustained or so-called essential hypertension as a symptom. The chronic slowly progressive type. This is our great problem. We may as well admit frankly at the outset that we have no specifics. It becomes, therefore, a question of management, rather than exact or specific treatment. As a rule the damage is well on the road before the physician sees the case. The management of this condition very naturally divides itself into two heads, first: prophylaxis and second: symptomatic or emergency measures.

Prophylaxis: The first thing to do is to take a thorough physical inventory of your patient. Find out as nearly as may be the condition of all the various organs and tissues of the body. Ascertain how much damage is done and its location. Investigate his metabolism. If any exogenous source of toxines is found, remove same. If any focal infections are located, clean them out. If any contributing factors are found in the method of life or habits of the individual, take the proper steps to render them inactive. When you have obtained and considered all of the information furnished by the above investigations you are in a position to map out a schedule suitable to the needs and capacities of your particular patient. In general we may say the patient should lead a quiet, simple, even, orderly life. It may be necessary to cut down the activities of the individual as much as fifty per cent. Rest, perhaps, even a part of the day in bed, is a necessary and useful measure in severe cases. The nervous system should be kept in as tranquil a state as possible by avoiding business strain. Bad habits should be corrected. Dietetic considerations are of the very greatest importance. Most individuals past middle age eat very much more than they need. A celebrated English physician once said: "If a man would begin cutting down his diet at middle age and continue reducing the amount eaten and finally go out of life on the same diet that he came into it on, namely milk, that he would increase his life span very materially." Reduce the diet to meet the needs of the body, considering the ability of the organs to metabolize. It is not so much a question of an iron-clad diet suitable for all cases, but rather, give to the individual what he needs and can utilize, but nothing in excess. The simpler and more abstemious the diet the better in all cases. Milk plain and in its various combinations, is an ideal food, the simpler vegetables chosen with reference to their chemical content if necessary. Plain cereals, fruits, stewed

or raw, according to need, and fruit juices, particularly the citrus fruits. It is best to keep the bowels open, the skin active, and the urine abundant. Saline purgatives, alkalies and sweat baths, in such cases as need them. The above is a brief enumeration of the lines along which we should work. The amount of benefit obtained will depend partly upon the condition of the patient, the stage of the disease which he presents, partly on the skill, judgment, and experience of the attending physician. To illustrate, take any fairly well-advanced cases with the usual leading symptoms, present and prominent. Place the individual at absolute rest, in bed a good part of the time. Use the Carrell milk diet strictly. Give daily morning doses of some appropriate saline laxative. Alkalinize your patient. A few weeks of this simple plan alone will serve to improve the individual very much. The comfort and sense of well being of your patient will be markedly improved even though the readings of the blood pressure curve may be very little or not at all affected. If the kidneys are badly crippled and handle nitrogenous products poorly, cut same to the minimum consistent with necessary bodily nutrition. If intestinal toxemia is a marked factor with constipation present, use salines freely, preferably sulphate of magnesia. Make the appropriate dietary changes, and use bacillus acidophilus milk freely as a part of the diet, etc.

Second: Symptomatic or Emergency Measures in Treatment: Under this heading would come the discussion of the use of drugs. This condition having once been established drugs play a very unimportant part in its management. Nevertheless we still use them. The iodides, preferably the lipoid or albuminoid type of same, used in small or moderate doses for a few weeks at a time with rests between is perhaps of some value, even where syphilis is not a factor. The use of the nitrites, nitroglycerine, sodium nitrite, etc., used for considerable periods with intervals of rest may be of benefit in selected cases; they may be tried. Very closely related to the above, from a therapeutic standpoint at least, would come the use of the arterial sedatives, of which class, aconite seems to be the favorite. Many prominent and experienced clinicians are very enthusiastic over aconite in this connection. They use it in fair doses over long periods of time. It is always easy to criticise, yet I do not believe very much benefit is ever derived from the use of any of the above mentioned drugs. At best their benefit is only temporary, yet they may serve to give us a little respite in which to arrange a more suitable schedule. Generally in the cases in which we need them, most of the small blood vessels have already been damaged to the point where they have completely lost the power of response. We should make it an invariable rule in trying any of the above classes of drugs that if we do not get any response within a reasonable time we should drop the drug at once and for good. Close attention with strict adherence to the above mentioned general principles of management will give the best results possible, compatible with our present knowledge and understanding of this subject.

THE NEXT STEP IN THE CONTROL OF TUBERCULOSIS*

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In such diseases as smallpox, which, by their appeal to the fear instinct of the public, prophylaxis is a comparatively simple matter. In the acute infections, measles, scarlet fever and diphtheria where the incubation period is short and where the connection between cause and effect is perfectly apparent, the necessity of prophylaxis is properly evaluated both by the medical profession and the public.

In tuberculosis, however, we have a different situation. In tuberculosis, the period between infection and disease may be one of years and the problem of prophylaxis becomes immediately more complex. The repellent features of smallpox are absent; the connection between cause and effect, the evolution of the seed to the harvest is not so apparent.

It is the object of this paper to try to point out some of the difficulties that arise in the program for the prevention of tuberculosis. With a proper appreciation of the difficulties, the weak spots, we ought, with our present knowledge and the facilities at our command, to be able to organize our work so that the anti-tuberculosis campaign of the future will be much more productive of results than it has been in the past.

Long before the epoch-making discovery of Koch, the phthisis mortality rate began to fall

*Read before Section on Public Health and Hygiene, Illinois State Medical Society, Decatur, May, 1923.

in many countries; most notably was this the case in England where the death rate has declined nearly 54 per cent. since 1866.

It remains for us to analyze the exact causes of this decline, to determine what factors have been chiefly operative, to try to outline measures that will enhance these factors and accelerate still more the rate of the decline.

The death rate commenced to fall before we ever knew of the tubercle bacillus; it commenced to fall because living conditions were no longer so favorable to the propagation of the tubercle bacillus. In the years when tuberculosis was at its worst, poverty, wretchedness, overcrowding and starvation furnished ideal conditions for the propagation of the disease and for childhood infection. The *seed* was there in plenty; the consumptive, house with his family, in a couple of dark rooms; the *soil* was ready, the child, undernourished, anemic, in close contact with the consumptive parent; the harvest was to be expected.

Undoubtedly the industrial revolution, the improved condition of the working classes, better food and better social environment have had considerable to do with the decline of tuberculosis.

But it must not be forgotten that exactly the same principles were operative that we now preach in our anti-tuberculosis campaign. Improved conditions and better living built up the physique of the child, increased his resistance and made the ground more stony. Improved conditions, better houses and more rooms increased the distance between the consumptive parent and the child, made the danger of mass infection less and the sowing of the seed less likely.

Better social conditions were operative up to a certain point and there halted. Then came Koch's discovery and the problem seemed solved: *No seed, no harvest; no bacilli, no tuberculosis.*

To this new knowledge and to the effort made, consciously or unconsciously, to turn it to advantage, to prevent the sower from spreading his seed, must be attributed a large part of the decline which has taken place in recent years. In countries where nothing has been done, as in Ireland, Serbia and Spain, no definite decline in the mortality has been noted. Germany has many sanitaria and there has been a definite fall. In the larger cities of the United States in which active crusades against tuberculosis have been carried on, statistics show the mortality rates have fallen. In short, wherever municipalities have supported a vigorous anti-tuberculosis campaign, the results have been gratifying. The reward is in proportion to the time, money and effort expended and if the time, money and effort are adequate, there should be no limitation in objective except the elimination of tuberculosis.

To those who preach limitation, irreducible minimum, we answer there is no limitation, no irreducible minimum but zero. For the farmer who believes in thoroughly weeding his garden there is no irreducible minimum. He realizes that each weed allowed to flourish, to grow unchecked, is, potentially, a thousand weeds. We know that each open case, unsupervised, is, potentially, many consumptives; that each open case propagates his disease in inverse ration to the extent of supervision.

In view of our present knowledge and the possibilities at our command, it is difficult to realize that tuberculosis, as a cause of death ranks third in Chicago, third in the United States.

On what fundamentals should a tuberculosis crusade rest? A study of the anti-tuberculosis campaign of the various countries leads us inevitably to the conclusion that if we are to obtain the best results, we must have a combination of the different methods, not focusing our attention solely on animal tuberculosis as in Denmark nor on the reporting of the case alone, as in Scotland.

In the scheme now operating through the Municipal Tuberculosis Sanitarium of the City of Chicago working in conjunction with the Health Department, this combination has been achieved:

Tuberculosis is reportable.

Infection from animal sources is prevented by pasteurization of all milk used in Chicago.

Isolation of the germ carrier is enforced.

Preventorium and sanitorium facilities are afforded.

Home supervision is ensured by a large force of field nurses. The scheme as now practiced is the direct result of the plans and surveys outlined and instituted by Dr. John Dill Ribertson during his period of office as Commissioner of Health and President of the Board of Directors of the Municipal Tuberculosis Sanitarium. It may be interesting to know that Dr. C. E. A. Winslow of Yale University says it is the best plan yet devised for the control of tuberculosis.

The management of the open case in contact with children is one of the outstanding features of the work. Prevention of childhood infection

is the objective. Especially is it the objective in children up to two years of age, because at this time infection is followed by disease in a large percentage of cases. The following figures from Fishberg support the statement: 75 per cent. of children born during the last year of the tuberculous mother's life die; 90 per cent. born during the last month, succumb; 16 per cent. of the death rate in children under six years of age, of tuberculous parentage, was due to tubercular meningitis, as against 1.27 per cent. of the death rate among the normal population of New York.

It will not be amiss to consider here some of the factors that tend to prevent tuberculosis campaigns from reaching their fullest objectives:

First: As Fishberg states, a lack of distinction between infection and disease. Infection is practically universal. It is with active disease—the open case, the sower of the seed—that the campaign must chiefly concern itself. In Chicago, this distinction has been recognized as vital and our campaign pivots around the open case and the contact.

Seconds The lack of institutional space for the careless consumptive.

Third: The difficulty of controlling the habits and movements of the open case outside the hospital or sanitarium.

Fourth: All cases of tuberculosis do not come under the observation of well systematized and standardized organizations.

It is this last feature that I wish to discuss further.

At the close of 1915 the dispensaries of the Municipal Tuberculosis Sanitarium of Chicago had 9,218 cases of tuberculosis under supervision with 4,204 deaths, a rate of 17.17 per 10,000 of population; in 1922, 40,833 cases were under the supervision of the dispensaries and the number of deaths was 2,325—a rate of only 8.37 per 10,000; as the number of reported cases increased, the death rate decreased. This was no mere accident. These statistics show, as the statistics of no other campaign have shown, that the death rate begins to decline in the ratio in which cases are diagnosed, weeded out, supervised and cared for. It has become an axiom in tuberculosis work that the tuberculosis situation of a community must be judged by the death rate and not by the number of reported cases.

What part has the private physician played in the campaign? In 1908 there were only 2,577 cases of tuberculosis reported to the Health Department of Chicago by private physicians. A consideration of cases reported during the three years 1919-1921 inclusive, shows a marked contrast.

1919 Dispensaries reported 8,863; private physicians 6,744.

1920 Dispensaries reported 4,940; private physicians 5,807.

1921 Dispensaries reported 4,959; private physicians 5,634.

The private physicians latterly have been reporting more cases than the active special agency for the control of tuberculosis. The physicians cooperate better, they are more conscious of their responsibilities. Why? Because the campaign has been directed at the physician as well as at the public.

The 1916 tuberculosis survey, undertaken under the direction of Dr. Robertson, was the first great step in educating the physicians of Chicago to the importance of reporting cases. The results of the survey were broadcast showing that thousands of cases were under no supervision and allowed to propagate their disease unwittingly.

In addition, a new departure in preventive medicine was made, the institution of the hearing board. The hearing board was organized to keep alive in the minds of the physicians the necessity for reporting cases. Mr. Edgar A. Jonas, now President of the Board of Directors of the Municipal Tuberculosis Sanitarium, acted as attorney for the hearing board and the physicians were made to realize that tuberculosis was a reportable disease in fact as well as in name. 1,423 physicians were called before the board and compelled to explain why they had been remiss in reporting cases. In practically all instances it was found that failure to comply with the law had been unintentional. The physicians promised better cooperation and were excused. Most of them lived up to their promise and it was never again found necessary to call them before the board. Suits had to be instituted in only eight cases.

This cooperation on the part of the private physician is gratifying, but much remains to be done; the ground is but scratched. We still have a great army of unreported cases which go about without supervision.

In the private physician, who comes into closer contact with the population than the health offi-

cer, lies the hope of the anti-tuberculosis campaign of the future. If he is to fulfill this hope, if he is to measure up to his responsibilities, the private physician must, in the first place be acquainted with the law. In the second place he must have, as part of his equipment, the skill and training necessary to diagnose the early case of tuberculosis. A thorough chest examination of every patient should be part of his routine.

Of the 1,423 physicians before the hearing board, 439 stated that they had made no examination, that the patient came in for a cough or a cold or a little pleurisy or a touch of indigestion and a prescription hurriedly written had been the measure of the doctor's services. These 439 cases that got the hurried prescription and no examination *were all either moderately or far advanced cases of tuberculosis.*

A thorough examination of all patients coming to the physician's office would be a great stride towards the solution of the tuberculosis problem. If each of the 5,000 physicians practicing in Chicago, made only two chest examinations a day, we would have 10,000 examinations a day. 3,000,000 persons, more than the population of the City of Chicago, would receive a chest examination each year, while only 20,000 new cases are examined annually in the dispensaries by the twenty dispensary physicians.

The primary responsibility for the development of a great percentage of active disease and ultimate death, rests squarely upon the medical profession. Whether it is ignorance of the law or inability to detect the early case, the blame lies in the province of the practicing physician and in the province of the medical school which equips him for the practice of his profession.

Massive infection and the dissemination of the disease can be prevented by the health department and other health agencies; but they can be prevented only when the cooperation of the private physician places the cases which are a menace under the observation of the proper authorities. Without the private physician, health agencies are helpless. They cannot reach into the home as can the doctor in private practice and identify the early case before he has had time to do damage.

The physician treating a diphtheria case, takes every precaution to prevent the spread of the disease; but almost invariably he is remiss in his precautions against the open case of tuberculosis. Our field nurses find in making their rounds that the contacts have not been examined, the great danger to the children not explained and often no advice has been given as to the care of the sputum.

It is true that among the poorer classes there is often no private physician; these cases, however, are being reached more and more daily, through the dispensary field workers.

The private physician, then, does not report his case either because he does not know the law, because he knows the law and wilfully evades it, or because he is unable to diagnose the early case. Some may take exception to this statement as to the inability of the private physician to recognize the early case. Following figures, however, are somewhat disturbing. In 1906 Barnes showed that 46 per cent. of the consumptives of Rhode Island had been incorrectly diagnosed; in 1909 Stolle showed that 44 per cent. of the consumptives in Connecticut had been incorrectly diagnosed; in 1911 Dearhold showed that 42 per cent. of the consumptives in Wisconsin had not been diagnosed correctly by the first physician consulted; in 1911 Howe showed that 57 per cent. of the consumptives in Massachusetts had not been correctly diagnosed.

The reason for the irreducible minimum is evident; the reason why anti-tuberculosis campaigns do not reduce the mortality below a certain point is because the private physician does not diagnose 50 per cent. of his cases. Half the cases of tuberculosis, unsupervised in the early stages, allowed to drag on into the moderately and far advanced form, allowed to do incalculable harm before the physician is awake to the situation!

Here is a leak that will sink any anti-tuberculosis ship. The public health workers are dependent for their data on the practicing physicians and if the physicians fall down, the campaign falls down; we have our irreducible minimum; we fold our arms and wait while tuberculosis takes its toll of 120,000 yearly in the United States.

How are we to stop the leak? The answer is obvious. The practicing physician must be better trained in tuberculosis work. That he is not so equipped today is not his fault; the fault lies with the medical school that trained him for the practice of his profession. The medical schools heretofore have given instruction in tuberculosis

that is in no way commensurate with the importance of the disease that ranks third in the mortality rate in the United States. In an effort to determine this fact, Dr. John Dill Robertson in 1918 sent a questionnaire to fifty large medical colleges and universities in this country. Twenty-six universities answered the letter. In eight of the twenty-six no clinics of any kind were held relating to tuberculosis. In the other eighteen an average of twenty-four hours in each school was devoted to tuberculosis. The best educational work on tuberculosis seems to have been given by the College of Medicine and Surgery of the University of the Philippines. The Dean stressed the reason when he stated in his letter, "Tuberculosis is recognized as being responsible for many more deaths in the Philippine Islands than any other contagious disease and the study of it is given a place in our curriculum in proportion to the importance of the disease." The last phrase would constitute a much needed slogan for the medical schools of America. The course in this school in the Philippines consists of three hours per week during the entire year and includes dispensary work, clinics, hospital work and a special exhaustive laboratory course.

As a contrast to this elaborate program of education, we turn to the report of Dr. Metcalf on this phase of the problem, before the Illinois State Medical Society, at Springfield in 1918. He shows a review of the catalogues issued by the Class A medical colleges. According to the catalogues, one college dignifies the subject by having a clinical professor of tuberculosis; five or six other colleges give tuberculosis "honorable mention." In one of the Class A medical colleges of Illinois, according to their catalogue, the department of Laryngology and Otology consists of the following officers of instruction:

Three professors.
Seven assistant professors.
Six instructors.
Three assistants.

All this for Otology and Laryngology, which really concern only the specialist and for tuberculosis which vitally concerns every practitioner of medicine, next to nothing! Since 1902 an average of 7,000 have died annually from tuberculosis in the State of Illinois; 70,000 in the State of Illinois are sick and incapacitated due to tuberculosis; and yet more attention is given to Otology and Laryngology in the curricula than to tuberculosis.

Every physician is or should be, vitally interested in tuberculosis. He should have adequate instruction in tuberculosis as a most important part of his training. The course in the college curriculum should be amplified. Clinics should be established in sanitaria and dispensaries, where the students can receive training not only in the treatment and diagnosis of tuberculosis, but also in the management of the patient from the standpoint of the law, and the standpoint of public health and preventive medicine.

And now, after a consideration of these questions, we come to our problem. Is there a next step? Is there more to be done, or are we to be content with our irreducible minimum and fold our arms? The answer is obvious; there is a next step and if we take it and follow where it leads we shall see the trend of tuberculosis mortality continued downward, ultimately to elimination.

The next step and the obvious step lies in the: *Standardization of all methods pursued, plus organization to include all practicing physicians, plus intensive courses on tuberculosis in the medical schools.*

There is urgent need of standardization not only of the diagnosis of the early case, but also on every possible angle of the disease, medical and legislative, so that all physicians can work along the same lines toward the common goal. We must have in mind the same first principles that animated tuberculosis work in the army during the war. The work was standardized; no one was permitted to deviate from the prescribed routine and the result was that the entire organization worked as one man.

In conclusion, I wish to emphasize the following points:

First: Better instruction in tuberculosis in the medical schools; more hours in the curriculum; more space in the catalogue.

Second: Better support from the medical profession in the diagnosis of the early case. A complete chest examination of every new case that comes to the physician's office. Prompt reporting of the case, so that the open case about which the campaign pivots may be under prompt and complete supervision.

Third: Standardization of all activities bearing on tuberculosis work.

Fourth: Examination of contacts.

Fifth: Careful observation and frequent sputum analyses of all cases of asthma, chronic bronchitis and emphysema. Especially is this important in the aged as the coughing grandparent is a common cause of childhood infection.

Sixth: Instruction of patients. Propaganda to make institutional care more acceptable to the open case and sanitarium care more acceptable to the early case.

Seventh: Refusal of physicians to sign death certificates in cases of tuberculosis which they see for the first time just before death. In 446 cases in 1922 the death certificate constituted the first report of the case. In 427 of these 446 cases, the patient had been under the care of some practor, faith healer or cultist and the physician was called in only to insure a burial permit. The cultist will thrive as long as the physician, by signing death certificates, is willing to protect them. Let the cultist who has had the case for weeks or months or years, see it through and then at the end, let him take his responsibilities where they belong, to the coroner's office.

DISCUSSION

DR. JOHN DILL ROBERTSON, Chicago: In the last point of Dr. Wightman's paper, she states that of 2,300 deaths from tuberculosis in Chicago in 1922, 446 were not reported to the Health Department, the first report being contained in the death certificate. These 446 cases had been in contact with many other people, some of them in contact with children who undoubtedly became infected with tuberculosis.

We have come to believe when people have passed the age of puberty they are not very likely to become infected with tuberculosis. That does not mean they may not have been infected in childhood. No one can estimate the numerous contacts made by these 446 individuals, nor the number of new cases caused by them.

What hope can we entertain of wiping out tuberculosis, when one out of every five cases in the City of Chicago is not reported until the day of death? A large perecntage of these 446 cases were under the care of an unlicensed practitioner, and when the last day came and a physician was needed to sign the death certificate, the neighborhood doctor was called in and he obligingly signed the death certificate. This he should have refused to do. He should have referred them to the coroner, who in turn should have held a coroner's inquest.

Recently three or four of us got the coroner of Cook County, the Health Commissioner of Chicago and the president of the Municipal Tuberculosis Sanitarium Board together, and negotiated an agreement whereby the Registrar of the deaths in the Health Department would refuse to issue burial permits therefor in cases which had not been reported to the Health Department. This agreement has not yet been put into operation, but when that agreement is carried out, good results will accrue I am sure. Such a practice would mean that the burial would be held up, a lot of trouble would be made for the family, a post mortem examination would reveal tuberculosis, and everyone would learn his lesson. Incidentally, it would mean protection to the sick, and teach the quack and unlicensed attendant that they trifle with human life. It is one of the most effective ways of eliminating that sort of individual from the practice of medicine.

It is difficult to find, (as Dr. Wightman has said), the hidden cases of tuberculosis. She has presented here direct evidence of one in five that are hidden until the day of death. Constant and continuous surveys must be made to unearth them. Where a city like Chicago has $1,600,000 a year to spend for tuberculosis, it is possible to reach most of them.

In 1916 we conducted a survey of 8 square miles in the center of the City of Chicago. The school population showed there were more than 330,000 people living in that district. Of these 165,700 people were examined, 14,282 were diagnosed tubercular, a percentage of 8.6 percent. This is one reason why the number of tuberculosis patients under supervision increased from 10,000 in 1915 to 40,000 in 1921. Subsequently other surveys were made in different parts of the City of Chicago. Late in the fall of 1921 we made a check survey in the same territory in which we had made the original survey in 1916. In that check survey instead of 8.6 percent of new cases, less than 1 percent was found in that same territory.

We have made great progress in the control of this disease during these years. Tuberculosis is not going to continue to recede unless a determined, continued effort is kept up. The lower you get it, the fewer cases there are to find, the more money and more effort it requires to find these cases. There are a great many physicians who do not take the time and effort to make proper diagnosis.

The reason for this are obvious to all of us. The patient comes to a busy doctor, when he does not have the time to make a thorough physical examination, and he either fails to ask them to report at a later hour for a thorough examination or the patient fails to return. This is a matter that we, as physicians, should find a remedy for. We should insist that they come back and have a thorough examination, so that no cases of tuberculosis will be overlooked. We should train our patients for annual physical examinations.

Because of this fact there are many cases of tuberculosis that are not discovered until they have advanced so far that an arrest cannot be affected. They are hidden from the health department, and if open cases, spread these infections to others.

Pasteurization of milk has been one of the greatest factors in the reduction of tuberculosis.

Glandular tuberculosis is very rare in the City of Chicago at the present time.

DR. I. D. RAWLINGS, Springfield: Dr. Wightman's paper was certainly an excellent explanation of the subject based on conditions in Chicago. If conditions downstate were as good as in Chicago we would feel very much pleased over that situation. At the last meeting of the Illinois Tuberculosis Association, in Springfield, I read a paper on "Tuberculosis in Illinois" and I called attention to the fact that in the last year or year and a half there had been more deaths outside the city of Chicago in the state of Illinois than there were reported cases. At the present time we are getting a few more reported cases than we are getting death certificates for the disease. Through our activity in trying to correct this, we were able to drive in some 2,000 more reports than for the preceding year, and the preceding year in this respect was better than the one preceding that, but the cases of tuberculosis are not anywhere nearly as completely reported as they should be; I knew of the advantages and felt that there had been much progress from the hearing boards as described by Dr. Wightman in her paper, and for that reason we have already set in progress the machinery for organizing a hearing board in each county with the hope that we may increase the reporting of cases. The doctors who fail to report their contagious disease cases and all persons, who fail to report these cases until the patient dies, will be called before the Hearing Board and warned. By checking the death certificate against the reported cases, we can easily learn if cases are reported. In fact two such Hearing Boards in two counties of Illinois have been held. Hearing Boards are of great value in educating violators in getting co-operation without prosecution.

We cannot expect with the small amount of money expended for tuberculosis downstate to anywhere equal the record in Chicago where a considerable per capita allotment for the control of tuberculosis is made. Another factor downstate that is very bad is the fact that the majority of the health officers are laymen. It is difficult to get a layman to realize the importance of trying to get cases of tuberculosis reported. If you haven't an active specially trained health officer, it is difficult to get the doctors to report the cases. Illinois unfortunately has 2,700 health jurisdictions, of which approximately 2,400 are presided over by laymen and we cannot expect to get very far in the control of any communicable disease with a situation such as that. It is for this reason we have been active in trying to get a full time county health officer to look after health matters in each county of the state. We think the medical end of the state's welfare require this just as much as the legal affairs. In many of our counties we have not only one State's Attorney but he has one or more assistants whereas we have not even one medical man, with but one exception, who is a full time health officer.

DR. GRACE WIGHTMAN, (closing discussion): I will say that we must congratulate Dr. Rawlings on the splendid revisions and changes he has made in the State rules for the control of tuberculosis. If it were not for some of the provisions of these rules, our Hearing Board would not be effective; and one important part of the rules is the requirement that physicians report suspect cases of tuberculosis.

When we call a doctor before the Hearing Board and face him with the evidence that a month ago he saw this particular case, that now it is either dead or an advanced case of tuberculosis, and he pleads ignorance of the law or failure to make examination, he has no further excuse when we ask him if he didn't at least suspect tuberculosis.

After all, the Municipal Tuberculosis Sanitarium of Chicago is greatly indebted for its effective work to the assistance of the State Department of Health

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PUBLIC HEALTH NURSING IN ILLINOIS*

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Within the last few years, public health nursing, as one of the essential cogs in the machinery of public health organizations has come to the front so forcefully, that I deem it timely to bring before the medical profession of Illinois, just what public health nursing is doing in our state, and what its aims and aspirations are.

So much misunderstanding and even apprehension have arisen in the minds of a number of medical men, in connection with the activities of the public health nurse that a fair presentation of the subject, may result in clearing the discordant notes found in some communities.

The evolutionary changes that have taken place within the memory of some of us—the gradual development of the district nurse into the modern public health nurse—closely followed the growth of sanitary and medical advances in the public health field.

The history of nursing is lost, one might say, in the shadows of the Pre-Christian era. However we learn through tradition, that India, Egypt, Greece and Rome, the civilizations antedating the Christian era, had nursing care for their sick. In the centuries that followed, with the rise of monastic institutions, more concerted and systematic nursing of the sick was brought about. From the early monasteries (the only centers of nursing through the dark ages), activities fostered by the strong arm of the church, through the great upheaval of the crusades, nursing came into greater prominence.

*Read at annual meeting of Illinois State Medical Society, Decatur, Illinois, May 15, 1923.

Pestilence and war reaped their usual harvest and here we find the first instance of nursing organizations, the founding of the order of St. John of Jerusalem. From this period on, nursing organizations became more numerous many of them associated with the church.

In the year 1849 Pastor Fleidner brought over from Germany four deaconesses who established the first nursing unit in Pittsburgh. Of course the development of nursing in the U. S. was directly influenced by the work being done in Europe. The year 1877 saw the first American organized nursing unit, brought about by the efforts of the Women's Department of the New York City Mission. From this date the movement spread westward and in 1890 there were 21 organizations employing visiting nurses in the United States.

These organizations had no connection with each other and no common standard of efficiency, either in work or in the educational requirement of the nurses. Any efforts towards union, seemed to only widen the distance which separated graduates of different schools. Each city and town started its nursing work in its own way.

The scope of activities of all these organizations was the care of the sick. Preventive work however was beginning to occupy the best minds in the ranks of the medical profession.

After a month of experimental work at the Henry Street Settlement, the city of New York established school nursing and in 1903 Tuberculosis Nursing was initiated.

And so the medical profession and the general public in Illinois came to know the value of public health nursing from its neighbors and the idea of a nursing service in Illinois gained favor.

The pioneer work of the public health nursing movement was instituted almost exclusively in our big cities, but this movement became countrywide extending from cities into villages and counties—reaching in the last 10 years the greatest stage of development. Public health nursing in Illinois began by giving nursing care to the sick poor. Nothing was done to prevent illness, so the nurses' task was endless.

This was the first principle of public health nursing—1. The care of the sick in the home.

Medical science then pointed out that much illness could be *prevented* and that it was cheaper, wiser and more humane to prevent illness than to cure it.

Nurses quickly accepted and practised these new teachings and this led to the second principle of public health nursing—2. The *prevention* of illness.

The third principle of public health nursing and the outstanding principle of all progressive health work is the promotion of public health.

A development which followed was the realization that the individual is at the highest degree of effectiveness, not only when he is free from disease, but when he is in good health, when he has life abundant. And so the guiding principles in public health nursing today are, care of the sick, prevention of illness and promotion of health.

While the second and third principles are receiving the greater emphasis in health work, the first principle must ever be part of the public health nursing program. The method of approach in care of the sick however is changed—instead of being purely a palliative measure it is an educational process. Demonstration lessons in the care of the sick and instruction in the importance of convalescent care are given. Sickness in the family is turned to good account by teaching personal and family hygiene, by urging the development of health habits and so encouraging health promotion.

Families are thus taught to share the responsibility and illness is reduced, through educational processes.

Among the significant developments of public health nursing in Illinois are the increasing demand for the public health nurse and the increasing tendency to pay for her services out of public funds. Townships, cities and counties through the State are contributing public funds for the support of the public health nurse.

More and more we are recognising that nursing has assumed the dignity of a profession which appeals to the very finest type of woman, a profession in which special knowledge is absolutely indispensable, in order that its members may fulfill their obligation to society.

"Public Health Nurse" is a term applied to the nurse engaged in any branch of public health work.

The tuberculosis nurse, the visiting nurse, the infant welfare nurse, the school nurse are all public health nurses.

She may be engaged in any one of these special

branches or she may be giving a generalized service including all phases of public health nursing affecting the well being of the family.

Generally speaking the nurses working in small towns and counties follow a generalized public health nursing program though emphasizing as a rule some special phase such as school or tuberculosis nursing.

In Illinois there is a marked tendency toward a generalized program of public health nursing though one finds strong organizations in some cities doing highly specialized work such as maternity, child welfare, etc.

Outside Chicago there are 305 nurses engaged in public health nursing in the various counties and about 77 of these nurses give general nursing service. The remainder for the most part specialize in school or tuberculosis nursing. Twenty nurses are employed by industrial concerns, while only seven give their entire time to infant welfare work. Thirty-seven counties have but one nurse to cover the entire territory of each, and twenty-three counties have no public health nursing service of any kind.

The larger cities have fairly adequate instructive public health nursing services already established but in the rural districts where the need is very great the service is woefully lacking.

The Illinois Tuberculosis Association and the Red Cross Organization and other extra governmental agencies have spent their resources in establishing public health nurses in local communities and at the present time there are in the field about 74 nurses employed by tuberculosis associations and about 20 nurses employed by the American Red Cross Society. Unfortunately limited funds place a definite limit on the extent to which these extra governmental agencies can meet the need for public health nursing services in the State.

However, there is no doubt that before very long the protection of the health of the community through public health nursing will be recognized as a public function for which public funds will be appropriated just as they are today for public education and for police and fire protection. Boards of education, county boards of supervisors, and sanitorium boards in various counties in the State contribute to the support of about 200 public health nurses. This encouraging situation is due to the untiring efforts of the Director of Public Health, Dr. I. D. Rawlings, to interest individuals and communities in the attainment and maintenance of individual and community health, so, naturally, a better standard of living founded on moral and physical health has become the watchword of the community.

As public health nursing has been demonstrated as one of the most effective means of protecting community health, the expression of community interest in its betterment is usually the employment of a public health nurse. Since public health nursing owes its success as an instrument of disease prevention to the instruction of the individual in his home environment and since, in our social structure the family unit must be maintained it is important that the foundation service be a generalized nursing service. Let us consider a community health program in operation in Illinois. First in importance is maternal and child welfare care. This phase of public health nursing is of the greatest importance. It is the direct link between the physician and the home. The nurse who undertakes this work must have a training that fits her to do good nursing work, and recognize good medical work. The nurse who has both the technique and the ethics of her profession, plus intelligence and a desire to serve will be of inestimable value to any community where she may be placed.

Good maternity work means that the people and the doctor are educated to use the public health nurse in every case where a graduate nurse is not employed by the family.

If a doctor needs the assistance of a trained nurse in the home that has every facility for comfort and asepsis, how much greater the need when there is nothing at hand and no money to spend for anything but the bare necessities of life? Everything possible must be done to protect the mother in this time of need. A doctor aided by a well trained nurse who knows the family can do much to make the advent of the baby less of a tragedy than is sometimes the case. Care of the baby goes hand in hand with the care of the mother. Here the public health nurse is the connecting link between medical science and mother love. The nurse interprets scientific truths on child care to the mother in terms of the home. Ignorance of the proper treatment is the biggest factor in the high infant death rate and by informing the mother of the latest scientific principles of child care, many little lives are

saved. Child welfare care includes general oversight of the children till they enter school.

Here the nurse works with and for the school department, hand in hand with the local physicians, cooperating with the health department and every agency devoted to civic improvement.

The school nurse uses her knowledge of the health and industrial laws affecting children to advantage in education and in enforcing preventive measures. Close and constant supervision of school children for the purpose of detecting and preventing communicable disease among them is an essential part of every school system of inspection.

A community by making education compulsory assumes responsibility for providing a decent, clean and wholesome environment for the children during school hours, and it is responsible for the maintainence of their health during that period.

In this country the public school has in daily session the larger part of the next generation—financiers, politicians, industrial leaders, labor leaders, teachers, thinkers and perhaps tramps.

From this melting pot humanity is molded well or ill according as we, the present generation meet our civic responsibilities.

The school nurse brings to the home, to the parents and children many lessons in hygiene, and through her efforts many physical defects are remedied before the child is forced to fall out of line to take its place with the defective or the deficient.

Detection and correction of orthopedic, cardiac, pulmonary, nasal, and visual defects during early school life means healthier children for our high school and young men and women better prepared mentally and physically to meet the demands of college life.

The school nurse teaches the value of health to children, and parents so helping them to realize that the attainment of health is worth some sacrifice on their part.

The nurse strengthens the hands of the teacher and physician by her visit into the homes, and by doing all in her power to make the American school an institution where bodies as well as brains are developed for a life of usefulness—with this thought in mind "the child of today is the man of tomorrow."

The public health nurse follows up the discovered case of tuberculosis and is on the alert for the undiscovered case — not only in the patient's family but in the community as well.

She follows up patients from the Doctor's office, the dispensary and the hospital and teaches them to follow out the orders which will restore them to health, and minimize the danger of spreading the disease in the family and community.

The attitude of the local industries toward public health measures is of great importance. It is to the advantage of every employer to have a clean, sanitary environment within the shop, but it is of infinitely greater importance that the workmen should come from clean, well kept homes and that they and their families be free from disease. The employer can do much within his shop but he has little influence beyond its walls, so the public health nurse is the natural resource for really efficient industrial welfare work.

The ideal of public health nursing is to cooperate with the private physician, to assist him in his work in the community, to serve the people and awaken them to the fact that health is their birthright and their greatest asset, for it makes all things possible, but like everything that depends on intelligent cooperation, the demand for a clean, healthy community must come from its citizens.

In an effort to correlate and co-ordinate existing nursing services the Director of Public Health, Dr. Isaac D. Rawlings, through the Division of Child Hygiene and Public Health Nursing, has organized public health associations throughout the State. These associations are composed of public health nurses, physicians and lay people sponsoring public health work.

The object of the public health associations is to point the way to such an arrangement of the work that there may be no duplication, to assist and advise public health nurses in the field, to standardize public health nursing services, to aid employing groups in securing qualified public health nurses and to interest lay people in the public health campaign. Public meetings are held in various communities (under the auspices of the public health association) to which the

general public are invited. Health problems pertaining to the community are discussed and active interest aroused in the "Safe Milk Campaign," Birth Registration, the Anti-tuberculosis Campaign and other public health measures.

The State supervising nurse, the Chief District Health Superintendent and the health superintendent for that particular district attend these meetings to advise and instruct public health nurses and others in their work in the field, in their relation to the practising physician, and to all agencies devoted to community betterment.

The supervising nurse of the State Department of Public Health has general supervision over public health nursing in the State.

The State Tuberculosis Association and the Red Cross Organization each have a supervisor of their respective nursing service.

The State Supervisor of nursing together with the supervising nurse from the Red Cross and Tuberculosis Association constitute a supervisory and advisory body of nurses for the State. Nurses who would prepare themselves to meet the demands of the future must be health teachers; if they would be educators they themselves must be educated since health is after all largely a matter of education.

Perhaps the most important contributions public health nurses make to the solution of health problems is to try to recognize facts as they are, to remember that progress comes only from constant effort, and that in order to realize the full satisfaction that makes life worth while we must disregard selfish personal interests, admit our limitations and combat with vigor any attempt to impose the same limitations on those to whom we expect to hand on the torch.

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Nutting and Dock, Public Health Nursing.

DISCUSSION

DR. H. A. CABLES, E. St. Louis: This would be a very excellent paper to read before every public health worker in the state. It puts public health nursing upon a ground on which there can be no question of co-operation between the public health nurse and the physicians as a body. The public health nurse, more so than the ordinary private nurse, is required to exercise the greatest diplomacy and tact of any profession I know of, standing as she does between the physician on the one side and the public upon the other. It is possible that sometimes there grows up between the public health nurse and the local physicians a discordant note, which perhaps if traced back is due to the lack of understanding. The high ideal in the outline of that paper is extremely commendable and all public health nurses in the state of Illinois that follow out the precept of the paper can not help but meet with the support of the medical profession as a body, in every locality.

The public health nurse is almost a necessity, especially in manufacturing and industrial centers. Out in the sparsely settled and rural districts they do not realize, perhaps, the usefulness and necessity of the public health nurse. In your industrial centers you have a large population that is living on the proverbial hand to mouth proposition and they can only live that way so long as the family is well. Illness comes into the family to curtail the income of that family and they are in a financial position from which they can never recover if they have to pay for all the things necessary to regain health. It seems odd in industrial centers that the public seems to violate willfully and arrogantly every law pertaining to the retention of health. We can not say at all times that the public rushes into the disease from ignorance. The public has a limited view of the matter of health, and I would state as a matter of opinion, that the public knowledge is low. They seem to rush headlong regardless of the consequences. In the homes in industrial centers where it is necessary for the ministration of one who is trained in proper administration, the public health nurse is absolutely necessary.

There is another thing that struck me about that paper, because I have had occasion to work in connection with the visiting nurses of my county. I would like every nurse to know, and I am going to tell them when I get back home, that is the plan of going into the home and not only telling the mothers but *showing* them how to do things. We have not many of those kind of nurses but many of the others who believe in telling them how it ought to be done and do not show them. There is a big difference. This has been recognized by the Mayos, and the only way they can teach people to follow up the instructions on diet, is to take them into the kitchen and let them see how the food is prepared, see how it is done and not be told how, and I consider the nurses going into the home and showing the mothers how to do things, taking care of the sick person and preparing the food, *showing them how*, that is the point.

DR. J. M. FURSTMAN, Bloomington, Ill.: The most important period of child life is what we term the pre-school age period. Under our generalized nursing plan a nurse has the opportunity of seeing the children before they enter school and a great deal of the work done in schools now could be done away with. At first it was thought the milk problem was the main solution in reducing your infant death rate. Improving the milk supply did not accomplish much until the infant welfare nurse went into the home and showed the mothers how to take care of that child, prepare the feedings and properly bathe and dress the youngster. The nursing system in communities you can favorably compare with the fire alarm system. If you have an efficient fire de-

partment and your fire alarm system is not working your department can not do good work. Your nurse is the alarm in the health department.

There are some doctors who take offense at the work the nurses are doing. I can frankly state that after I have had a nurse in the service for 6 months if she is a competent nurse, with all due respect to the medical profession, that nurse becomes a lot more competent, more efficient to diagnose these cases than the average physician. They are not permitted to make a diagnosis, however. They are in a position to get them into early stages of a disease and see that those cases are properly isolated. How are we going to get people interested, in taking up public health nursing? We are trying to solve the plan in Peoria by affiliating the nursing system with the hospitals. We get a nurse from the hospital for training into the field, get them to see the work as they will come into contact with it after they leave the hospital. It is an entirely different problem. Most of the courses offered in public health schools are theoretic courses and after they get out they have to get the practical training. I think it ought to be and I think it will be in the future a compulsory part of the nurse's curriculum to have a certain amount of public health work.

DR. GRACE WIGHTMAN, Chicago: I was very much interested in Mrs. Reiseman's paper. In Chicago we have about 500 public health nurses, 160 on the field staff of the Municipal Tuberculosis Sanitarium, 125 in the Health Department, 100 in the Visiting Nurse Association, about 40 in the Infant Welfare and between 40 and 50 in the industrial.

I was interested in what Mrs. Reiseman said about the nurse having to become a health teacher. This, I feel, is the field that we must develop in the future of public health nursing, that it is the education that the nurse must have and be prepared to do before she can really become an effective public health nurse; and here I find is the greatest lack in the nurses' training. The nurses who come to us have had the usual hospital training for bedside nursing, registered nurses, all of them. Mrs. Reiseman stated that nurses were not trained to do practical things; we find they are lacking in the theoretical side of the work, that we have to give them courses in dietetics, child welfare and hygiene work, teach them how to give health lessons and demonstrations, psychology and methods of approach to families.

The Doctor has spoken of the resistance of the medical profession toward the public health nurse. We have very few complaints in our organization in Chicago from that source. I don't believe more than two or three a month come into the office about the interference of the nurse in tuberculosis cases. When we investigate those complaints we invariably find the patient has misrepresented the nurse to the doctor, and when we explain the nurse's side of the case it is usually cleared up harmoniously.

DR. JOHN DILL ROBERTSON, Chicago: I am very much impressed with that paper. It is excellent. Dr. Wightman, who has just spoken, also echoes my sentiments. She has charge of 160 nurses, 25 physicians, and 40,000 patients. I do not know how many thousand calls they make in a year.

Why should a nurse who has been working in a hospital, devoting one-half of her time to housekeeping for the sick and the other half to assisting the doctor in surgical and medical cases, know anything about public health nursing? Very few training schools teach anything about public health nursing. We found in the Health Department, where we had school nurses, in the contagious disease hospital, where we had graduate nurses, and in tuberculosis work, that we had to train these nurses all over for special work. You can not take trained nurses from 90 per cent of our registered hospitals and put them into contagious disease hospitals, without getting a high cross infection mark. They have to be trained for this special service. The same is true of those you put into field work.

There is another group of nurses I want to speak about. During the first influenza epidemic in Chicago we found there was a woeful shortage of nurses. We did not have a sufficient number of nurses to take care of our sick. More and more the nurses who graduate from our training schools for nursing are going into public health nursing. While it is true that the graduate nurse at the present time is getting at least $7 per day for her services, she prefers to take a position at $110 a month, to begin with, in public health service, her reason for this being that the hours are shorter, giving her regular and sufficient time for sleep and recreation. For more than 8 months each year in Chicago there are not nearly sufficient nurses to fill the calls for private nursing duty. Everyone who has given any study to the question knows that at least 94 per cent of the people are unable to afford a trained nurse at $7 per day. On account of the fact that a majority of trained nurses do not care to nurse the sick in the homes, it is necessary to provide someone to do home nursing.

The great influenza epidemic in Chicago demonstrated what a deplorable condition the homes of the sick were left in under such circumstances, and this was the reason for the Chicago Training School for Home and Public Health Nursing, where more than 11,000 housewives, clerks, stenographers, school teachers, etc., have taken and received a certificate, certifying that they have completed this 8-weeks' home nursing training.

The second epidemic of influenza in Chicago demonstrated the usefulness of this training, when, after it was over, our records showed that these nurses had cared for some 12,000 sick.

In response to a criticism made against this institution, the Training School conducted an experiment lasting nearly three years, in which approximately 4 000 patients were admitted to a hospital provided for this experiment, known as the Home Nurses' Hospital, and were cared for by women who had taken the 8-weeks' course. This hospital was under my personal supervision, and surgical work consisted of all sorts of major operations, obstetrical cases, and a large

number of nose and throat operations. Surgical care was given by these graduates. The experiment was conducted without the aid of any trained nurses. The woman in charge of this hospital had had no surgical experience except that which she had received from the Home Nurses' School. I was assisted in this work by my associate, Dr. Ira B. Robertson. Dr. Edwin B. Wachlin was the house physician of the Home Nurses' Hospital. During the time this hospital was conducted there were but 8 deaths out of 4,000 patients, making a percentage of .2 of 1%. During the year 1921 the percentage of deaths in Chicago hospitals was 2%. We had no accidents of any kind or description, no patient was burned, no patient received a dose of poison by mistake, no patient jumped out of the window, and the results were all that could have been hoped for. However, the only object in conducting this hospital for this period was to prove the fact that giving surgical nursing was housekeeping for the sick, and that any woman with good common sense, who used ordinary care and diligence, under the direction of a physician, would be serviceably sound for this duty. The object was not to in any way reflect upon trained nurses, and was conducted because the training that these women were given for home nursing was questioned by one of our enemies.

Someone said to me that a "little bit of knowledge was dangerous." I heartily agreed with them, and came back with the statement that these nurses did not have "A little bit of medical knowledge," and that they did not know any better than to do what they were told to do in the way they were told to do it.

At the present time not to exceed 5% of the 11,000 women who have taken this home nursing course are doing nursing for pay. The large majority of them took this course so that they might be able to care for their own sick in their own home. The criticism is made that women who go out for pay sometimes get a larger fee than a regular trained nurse. This is a matter that can not be controlled and a matter between the home nurse and the people who employ her. There are a number of people who are willing to pay the home nurses more money than perhaps they are entitled to. I have reasoned with some of these, and they have replied by saying that when these women come into the home, care for a sick patient, do part of the housework, prepare the meals for one or two others, on account of the mother or housekeeper being sick abed, in other words, do double duty as maid and home nurse, that they feel they are entitled to all that they give them. These home nurses are instructed during their course that they are being prepared for home nursing only. that they do not know anything about medicine or diagnosis. that they are to act only as an assistant to the physician and to carry out explicitly any orders that they may give them. They are also told that they should not hesitate to do whatever little housekeeping is necessary to be done in the homes of this class of people, who, in most instances, can not afford to pay for a maid as well as someone to care for the sick.

THE ILLINOIS CAMPAIGN FOR EDUCATION OF THE LAY PUBLIC *

A Brief Explanation of What the Physicians in the State of Illinois Are Planning to Do for the Benefit of the Public Health and the Conservation of the Rights of the Profession

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The practice of medicine is drifting away from the doctors and into the hands of uneducated and unscrupulous individuals.

For this menace to public welfare and the advancement of science, partially, the profession itself is to blame. These are days of educative ubiquity, and the medical profession has fallen out of step. On all sides the blatant and persistent publicity of incompetents exalts their bogus skill, in many varieties and in many measures.

Ethical proscriptions of the medical confraternity inhibit any self-exploitation, either of the men or of the mother science that they serve.

Besieged on all sides by the cry of the charlatan, the sick man hears and believes to his own undoing. He does not know the difference between what is false and what is true. He hears vaguely of wonderful progress and miraculous "research discoveries" made by medical science.

But the dignified reticence observed by medical science works to its own undoing. The charlatan seizes upon the name, and perhaps the method, of specific progress and uses it to delude the ill and unwary. The sick man does not know where to find efficient competency, even if he knows of its existence. In other words, the quack sits in plain sight with his shingle out, while medical science hides its light under a bushel.

To place before the citizenry of the country a knowledge of what is being done by reputable medical men, and how the everyday man can avail himself of scientific advances both for his personal and for the public health, is an added task laid upon the shoulders of the doctors. It is a new contingency of the complex civilization. The quacks and charlatans, of course, flourish from their appeals to personal egotism, through

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a specious suggestion of the possibilities of self-medication, and through their purchasing power of billboards and similar avenues of distribution. Such common ways and means, of course, are beyond the pale from the point of ethical consideration. But the way that must be followed, the only path possible for the conservation of the public health and welfare and the future of medicine, lies in a generous, simple, but widespread revelation of the truth about medicine, what it has done, is doing and will be able to do, for the benefit of suffering humanity.

If the science of medicine is to live up to its ideals and purposes, it must fight these enemies of the public health and national welfare with their own fire, and in the terms of their own language. Not by false promise or sanguine deceptions such as are the charlatan's stock in trade, but rather by plain statements of scientific fact, can the medical profession save the national health from destruction, through its justified promises of alleviation, and even possible cures, of physical misery among a suffering public.

The way in which to bring this knowledge to the public has been causing much deliberation in the Illinois State Medical Society. The future of medicine is clamoring for help.

Another point under consideration is the reinforcement of the profession. Standards of medical education have been raised from time to time until at present, the requirements are so high, that a man can not enter the practice of medicine until he has reached approximately twenty-seven years of age. This means, too, that he will have expended upwards of $25,000 of money already earned to secure his medical education, to say nothing of the loss of another $25,000 potential profits that he might have been making from the time he was sixteen years of age, while working as a bricklayer, at wages far in excess of what the average doctor makes in practice of medicine.

Pit this against the exponents of the cults and systems who are being advertised for in all the cheaper class of magazines and periodicals, to "take an eight weeks' course and learn to be a somekindoranother-ic and get a doctor's certificate." Brakemen, plumbers, and even ambitious barbers are studying short courses of weird systems at home, nights and noon times, and actually clamoring for recognition as scientific medical men. The public is not yet awake to what it needs for its own protection. The lay education campaign of the Illinois State Medical Society hopes to explain a few of these items to the deluded ones.

Another momentous point lies in the fact that the trend of modern education has left its mark upon the younger generation of doctors, in that these younger men forget that the routine of life lies in small things. More than seventy-five per cent of human ailments are to be classed accurately as temporary trivialities. Now these younger doctors, for the most part, have ambitious eyes fixed upon the great moments of medicine with almost complete disregard of the everlasting minorities. Intent upon hopes of the critical laparotomy, or other serious surgical operation, idealistic young physicians are prone to neglect the every day need of the ailing public. *And right here is the loophole through which the bogus practitioner creeps to find the foothold by which he sometimes dislodges and supersedes the skilled man.* We are educating specialists, and not doctors.

Out of the inattention of scientific men for ordinary wants of an indisposed people, spring and flourish the mass of cults and of mock medical systems that insidiously deprives the sick of the available expert medical attention. In other words, it is the seeming indifference of physicians towards the annoying ailments of prevalence and frequency that forces the people to seek care and a sympathetic ear from the pseudists.

Now a powerful appeal of the false healers is the seeming shrewd fashion in which these dispensers of bunk appear to take the patients into the full confidence of their supposedly wonderful systems. The subtlety of this suggestion to personal vanity is incalculable.

Recognizing these perils the committee for publicity of the Illinois State Medical Society is forced to consider also, contributory menaces to the national welfare and the public health that have arisen from this apathetic negligence on the part of the medical profession. These include:

1. Lay dictation of medicine, and the centralization of administrative power in non-scientific authority, and in non-medical people.

2. Fiat medical practice, and the usurpation of medical rights by non-medical people.

3. The insolences of overtrained nurses, who

attempt to practice medicine instead of restricting themselves to their own orbit.

4. Hospitalization of the sick at the mercy of pecuniary considerations.

5. The introduction of dangerous and restrictive legislation such as the Harrison Drug act and the Sheppard-Towner Act; the numerous chiropractic and osteopathic bills.

Although the fight is to be waged from Illinois' standpoint, yet the fight is not for Illinois alone. The State has become only a type state with every other state in the Union feeling the menace with equal weight.

Outlining briefly what the publicity committee is aiming at, the work may be divided into two parts, the first of which consists in the necessary collecting of money with which to pay the expenses of the campaign and the second the placing of the campaign in the very center of the public eye.

In Illinois direct solicitation was made of all physicians and surgeons. A minimum contribution of $10 was asked for, and more was suggested. Work of this sort costs money and the cults have found this out. They pay millions of dollars annually. For an ethical campaign such as this must be the expense is necessary but different. Cults and their kind must pay for every inch of space in a newspaper, magazine, or on a billboard. The medical profession deals, in the record of its achievements, with that sacred element of modern life, known as *news* — in other words, in information of accurate interest and benefit to the human race, whether as a guide, or as a warning, all of which is based upon personal experience or scientific fact.

Thousands of avenues of distribution are opened to the purveyors of such elucidative data. The space that this data can secure from the public and lay press, and other distributive centers is not for sale at any price. No quack can secure that hearing, if it is known that he is a quack. It is up to the medical profession to get busy and tell the truth about itself so that the public will know the difference between skill and bunk, just as it has learned the difference between tin and silver, cotton and wool. In getting in the funds for a campaign it will be found that the lay public is not the only section of the population that needs education. There are many physicians who need a little education themselves to have their eyes opened as to the speed and completeness with which medicine is drifting out of the hands of the doctors into most questionable harbors.

Letters, editorials in the state medical journal, and pledge cards were handed to every doctor in the state of Illinois. When a physician did not respond he was tactfully reminded of what was going on. Some of the statutory crimes of the decade against medicine were called to his attention. A large percentage of the doctors of the state have sent in their pledge cards accompanied by cash or check. Others are still being gently reminded. It is only fair to state that as a general thing the doctors were enthusiastic and heartily in favor of the idea.

The collections need to be increased, but the need for the work is being realized more keenly very day.

With the collection of funds continuing the committee is turning its mind to other ideas. One still dominant, however, is the hope that some philanthropist could see the exigency here and give or bequeath an amount of money for the financing of this vital and unselfish propaganda, so necessary to the people at present caught as all nations are, in the vise of radicalism and reaction.

Organization has become the backbone of any current campaign.

The committee outlines then that the aims of its first year of work will include:

1. Classification and centralization of the resources of the association in point of publicity.

(a) Men engaged in research work of public interest.

(b) Men tangent to the lay press, the lecture platform, stage and other centers of public distribution.

(c) Medical men in the public eye, whose spoken or written word has a publicity value.

2. Establishment of general publicity media for news and feature material, which shall tend to:

(a) Correct misinformation on medical subjects.

(b) Place the profession more conspicuously in the lay press.

(c) Present an adequate background for additional protective legislation.

3. Enlistment of active co-operation from the

county societies in the state for the purpose of:

(a) Making the campaign an affair of every doctor, rather than of a committee.

(b) Inviting participatory rather than detached criticism.

(c) Securing for major news a state wide diffusion that will exceed syndicate possibilities.

(d) Utilizing local detail and experience for the feature work of the central bureau.

II. For the accomplishment of this, the association has appointed a trained publicity director with instructions to combine the functions of press agent and of evangelist.

The "press agent" part of this director's duties should include:

1. Preparation of feature articles for use in magazines with a substantial circulation in Illinois syndicates, state and local publications.

2. Preparation of news stories based upon current activities of the association that will be suitable for use by syndicates, press associations and city newspapers, and for adaptation by country newspapers.

3. Establishment of press contacts.

4. Preparation of material for use by physicians who will speak before lay organizations.

5. Research work in current medical history, background work of significance and suitable media for such facts.

6. The general contact point between the lay press and the profession in the state of Illinois.

When it is time to play the evangelist, the duties attendant upon this phase of the work should include:

1. Personal conference with county societies throughout the state at some time during the coming year in order to:

(a) Convince the membership of these branches of the necessity for and the suitability of the campaign;

(b) Report progress of the "press agent" work;

(c) Analyze local problems.

(d) Establish procedure for the handling of local publicity situations;

(e) Arrange for local society to use material supplied from central press bureau and to function for local media;

(f) Enlist participation in campaign from the local branch membership.

2. Establishment of central bureau to provide speakers and to create opportunities for these speakers to discuss subjects worthy of and suitable for presentation in a popular vein to lay audiences.

3. Establishment of organization contacts to co-ordinate with the lay press, and the inauguration of popular "drives" on projects designated by the governing publicity committee.

The most captious of critics will observe that this programme is one that can be carried out with all due consideration for the traditions of self-respecting medicine. Dignity, truth and redemption of the public welfare from the quagmires of bunk will be the fruits of the campaign. The general public is hungry for news of the functions of the ever troublesome body and the simple way in which it may be cared for. Proof of this is found in the tremendous amount of "medical answers" carried in every daily periodical in the country. Medicine is the most destructive of professions. Working on its elemental doctrine of prophylaxis it works to its own undoing, but there is much yet to be done before the race will have reached the millennium of physical perfection. If something is not done at once to restrict the outrages perpetrated by the pseudo-medical-incompetents, centuries of medical research and professional devotion will go for naught.

The doctor as an individual is caught between two fires. In addition to the work of the bunco-medics, the increasing knowledge of specifics for standardized diseases has brought into play a vast possibility for self-medication, that an egotistic public has availed itself of with much avidity. The fine point of diagnosis is too often overlooked. One of the crimes against it is the maudlin cry of the chiropractic that any ailment under the sun can be diagnosed from a wiggle of the spine. If the claim were for any ailment under the sod, there would be no argument, but not until the death rate shows an alarming increase will the public awake, and that too late.

Hampered by laws that make it impossible for a physician to prescribe certain drugs when and how he wishes, but only as a few non-medical lawmakers think he should, the doctor is still doing his best. Would the Harrison Narcotic law, the inhibitions of Volstead act and a dozen other insanities be on the statute books

of the country today if the public and the physicians, too, had been aware of what was meant? Though never at any time a user of alcoholics, tobacco, or other narcotics, the speaker has had an ample opportunity to feel the whip of fiat medical practice.

Dr. George E. Vincent, an able educator, has said "In democratic countries like the United States, Great Britain, and Canada and Switzerland, the popular estimate of the social value of science, the general esteem in which scientific men are held, the willingness of legislative bodies and of private citizens to supply funds, and the readiness of leaders and people to accept and apply the results of scientific research are determining factors in the progress of knowledge. Unless the leaders of opinion and a substantial proportion of the adult population appreciate the aims and methods of science, understand something of the value of evidence, are familiar with reasoning processes, and are prepared to recognize the authority of disinterested experts, science can not attain the place it deserves, or render the service of which it is capable. Chemical, electrical and mechanical engineers have won distinction and recognition because their work is tangible and convincing both to the trained leader and to the man in the street. The medical scientist, with vastly more complex problems to solve, must ask for the support of a much more intelligent imagination and sympathetic form of public opinion."

It is the creation and support of such a public opinion that is the aim of the lay educational campaign of the Illinois State Medical Society.

25 E. Washington St.

X-RAY AS AN ADVANCE IN THE TREATMENT OF IMPAIRED HEARING.*

(A Preliminary Study)

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Impaired hearing represents a medico-economic entity of vast proportions. It is a condition responsible for much disability; and, unfortunately, it has hitherto largely defied the skill of the otologic practitioner. Many expedients have been introduced from time to time, new modes of treatment, purporting to afford greater benefits than those derived from the generally recognized measures which have established themselves as orthodox; but the remorseless test of clinical experience has served only to eliminate, gradually but surely, each and all of these ephemeral innovations.

I hope I am not altogether unmindful of this sobering fact, as I undertake to present, for your considerations today, certain findings which at present can claim nothing better than an empirical findings wholly with contempt. For all scientific theory and analysis, while it steadfastly sets before itself the goal of an explanation in ultimate terms, has and can have no other starting point that just such isolated and empirical items of information. Empirical knowledge that has been carefully verified, that has passed the test of practical utility, has a meaning and a suggestiveness which no progressive scientist can afford to ignore.

Better to understand the discussion that follows, it will perhaps be useful to restate the concept of deafness, with a view to emphasizing an aspect which is often relatively neglected in clinical practice. Hearing, as a sensory function is conditioned by two readily distinguishable sets of factors within the organism. The first comprises a peripheral group of anatomical structures that in their totality form the receiving and conducting mechanism for the sound stimuli that reach the organism from the environment. The diseases ordinarily affecting this mechanism are familiar to the profession. The pathological conditions to which it is subject have been adequately described in many excellent treatises. It is these diseases against which our orthodox methods of treatment have been mainly directed; and in so far as they have proved to be the chief responsible factors, and in proportion as trained skill has been available for their correction, a relatively satisfactory degree of success has been achieved. But considering the large number of cases treated, the instances in which success has been achieved have proved disappointingly few.

The second set of factors, which I have come to regard as in many cases the more important, comprises the mechanism of the auditory nerve, the cortical centers associated therewith in the superior-temporal convolutions and elsewhere, together with all the known and unknown condi-

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tions of efficient transmission and registration in these structures. It is a curious fact, which may or may not have some bearing upon our problem, that the auditory nerve differs from the optic and the olfactory nerve, in having a peripheral as well as a central origin. Both the optic and the olfactory nerves represent direct processes from the brain, while the auditory nerve is the sensory-dorsal branch of a spinal-cranial nerve, the motorventral branch of which controls the facial muscles. Thus the auditory nerve originates in part also from the cells of the head-plate, that is, the fibrous layer of the skin; an origin which is shared also by the membranous, cartilaginous and bony coverings of the ear labyrinth. Moreover, in fishes, and in the other lower forms of vertebrates, no special apparatus exists for the conveyance of sound and no external and middle ear, but only a labyrinth situated within the skull. These considerations may at any rate serve to suggest that perhaps there are special reasons in the case of the hearing function, over and above those which apply to all the senses alike, for emphasizing the importance of the neural and associated cortical mechanism, and for avoiding if possible a mode of treatment which too narrowly focuses its attention upon the anatomical and histological perfection of the receiving mechanism.

Impaired hearing, therefore, involves a two-fold pathology:

(a) Histo-pathological changes in any part of the structures to the initial reception and conduction of the sound stimuli;

(b) Ultra-histological changes, possibly, affecting the bio-physical integrity of the neural and cortical mechanism which is the final condition of a conscious interpretation of these sound stimuli by the organism.

An individual presenting himself for examination and treatment directed to a condition of deafness should, generally speaking, be submitted to an established routine that will insure a reasonably accurate survey and appraisal of his auditory sensibility. Various acoumeters, such as the Pollitzer, Barret or Barany noise apparatus, the Galton whistle, the numerous tuning fork tests, including the Rinne, Weber, Bing, Schawbach and Gille, may be utilized. While valuable as limited diagnostic criteria, these measures of hearing acumen, owing to their artificial character and their failure to reproduce all the concrete conditions of the normal hearing function, are somewhat inadequate as practical tests, and though they are taught as a part of the otologic curriculum, it is the general opinion of practitioners that they fail to meet their full needs. Perhaps the best single test from the viewpoint of simplicity and desirability, is the distance measure of the perception of the spoken and whispered voice. The voice, however, is difficult to standardize; the many methods which have been proposed for this purpose have been failures: fortunately, the problem does not have to be solved with absolute mechanical precision. A skilled otologist can usually control his whispered and spoken voice with sufficient approximate accuracy to determine whether the hearing of a subject has materially improved. And what is still more important, the patient is thoroughly cognizant of the many voices among his acquaintances that he understands; so that he notes quickly any real progress made by the treatment, promptly observing that more conversation is correctly perceived and interpreted.

Following this quantitative survey of the patient's audition, the sound receiving and sound conducting apparatus is inspected with appropriate thoroughness. Anatomical deviations are noted; histopathological changes are inquired into: and on the basis of this examination, the indicated corrective procedure, as approved and established by the experience of the profession, is utilized to the fullest extent, in the effort to restore normal conditions. An integral part of the examination-routine should include the making of an x-ray plate, and a survey of the paranasal sinuses and mastoids; for pathology in these hidden recesses quite often sponsors a deaf condition that is promptly relieved when adequate attention is devoted to paranasal or mastoid aberrancy.

As the result of such routine examinations, and the conscientious use of the indicated appropriate therapeutic interventions, a very small number of deaf persons are materially benefited. But regardless of the character of the pristine etiologic pathology, the impaired hearing of many is virtually unimproved.

In the course of the systematic examination of patients, it has for years been my custom to include in all appropriate instances a complete radiographic examination of the paranasal sin-

uses and mastoids. It frequently happened after one of these radiographic surveys that patients would volunteer the information that their impaired hearing, which was not the trouble that brought them to my care in the first place, had been markedly relieved; and they asked if it were a property of x-rays to correct deafness. A search of the literature brought to light some studies by Jaulin, Ortloff and Siebenmann. These workers, experimenting independently of one another, had come to the conclusion that x-rays benefit deaf individuals. These studies are unfortunately incomplete, and convey inadequate information as to the quantity and quality of the radiation used, or of the best method of applying it; so that their contributions served only to confirm my empirically derived impression, that the casually observed relation between the submission to x-ray exposures and the improvement of impaired hearing bore a deep significance, worthy of serious study and investigation.

In this country many have exposed nerve and brain structures to the x-ray; but owing to the very slight changes in the tissues revealed by microscopic examination afterwards, they have generally arrived at the conclusion that x-rays are without effect, or exert at most a minimal effect, upon nerve elements. Nevertheless, careful inquiry and auditory "aura" experienced by the patient undergoing radiographic exposure of the head, a report which has not infrequently been confirmed in my own experience. From which it was natural to infer that roentgenization of the auditory brain center might be essayed with some hope of results.

Electromagnetic wave lengths of a range of frequencies including visible light, ultra violet radiation, x-radiation, ultra-x-radiation and radium emanation, cause the emission of electrons from metallic surfaces upon which they impinge. And yet the changes so induced are not revealed to chemical or microscopical investigation, but must be measured by very special physico-chemical methods. Now this phenomenon, known as photo-electricity, offers us an analogy which is strikingly significant for our purpose. In 1818 Von Grothhus propounded the law, applicable to all these phenomena, that "only the energy that is absorbed can do chemical work." In spite of the fact that the chemical work done by such absorbed energy cannot always prevail microscopically, the modern science of photo-electricity enables us to deduce and defend the converse of Von Grotthus' law, namely, that *all* the energy that is absorbed does physico-chemical work. Moreover, I think we are justified in seeking its application to the phenomena of deafness.

From the viewpoint of the otologist, the clinical deduction is of paramount interest. The projection of x-radiation into the structures of the body must lead to the performance of physico-chemical work in proportion as the energy is absorbed. That the results cannot be measured by our present methods of clinical investigation in now way vitiates the certainty of this scientific fact. And in proportion as means for detecting photo-electric effects in the tissues are evolved, so will our concrete and detailed conceptions of the possibilities of radiation-therapy expand to include this newly revealed phenomenon.

Convinced therefore that x-radiation affects nerve structures no less than it affects, photo-electrically, other structures, I began to use the x-ray treatment in my practice; and with a view to safe-guarding such patients as had first to come within the purview of my experiments, I used very mild doses, directing the radiation to the auditory center on each side. By a mild dose I mean a low voltage equivalent to about 4 inches of spark gap, or 50 kilovolts; and a low milliamperage, about 8 milliamperes. There is in all probability no need for any greater quantity of energy; for, as Lenard early proved, the photo-electric energy of the ejection of the corpuscle is wholly independent of the intensity of the energy causing the ejection.

At the very beginning, the results were gratifying. Regardless of the character of the initial pathology provoking the deafness, many patients, who had failed to respond to the use of other methods, found their hearing acumen positively improved under the new treatment. It was soon found that the radiation could be directed practically anywhere on the head in about the quantity described, with the same betterment of hearing, clinically; a fact which suggested that the therapeutic effects noted might not be depended exclusively upon the stimulation of the auditory nerve center; but that possibly the nerve itself, as well as the associated neural and non-neural tissues might be subject to the stimulating influences of the rays.

The method, then, consists of the gentle ir-

radiation of the head from four angles, focusing, for the sake of convenience, upon the sella turcica. First, through the temporal region on the right, directing the central way one inch in front and one inch above the external auditory meatus; second, over the occipital protuberance, with the head inclined forward; third, the left temporal region in the same manner as the right; and, finally, through the anterior fontanelle, the head inclined backward. It has seemed to me to be important to keep the quantity of energy used constant and non-fluctuating, and that the best results are insured with the use of a carefully stabilized current.

Whenever examination discloses the presence of anatomical pathology, as for example the lymphatic hyperplasia that accompanies some cases of Eustachian and middle ear inflammation, it seems best to use, in addition to the small photo-electric dosage already mentioned, a heavier dosage such as is known to reduce hyperplastic tissues. These applications are proportioned to the extent of the anatomical pathology revealed, and are repeated only at sparse intervals.

I need scarcely say that the x-ray treatment here described must be regarded as purely adjuvant. Any discernible and corrigible anatomic or pathologic defect should, of course, receive all possible clinical aid. But when this has been done, my experience, covering about 600 cases with approximately 10,000 exposures indicates that the x-ray treatment challenges the attention of the progressive otologist. In all of my cases, no harmful or untoward effects have ever appeared. I shall proceed to note some of the more striking of the observations that have attracted my attention:

(a) I cannot discover that the original pathology plays any obviously determining role with respect to the efficiency of the treatment.

(b) Improvement, when it occurs, is either astonishingly immediate, or is for some time latent, becoming apparent only after several treatments.

(c) Improvement is at times followed by relapse, which has not in my experience ever reached the low level of the original deafness. The gain is apparently a progressive series of steps.

(d) Improvement is most usually manifested in an increased power to interpret the conversational voice; next for music in its various orchestral forms; lastly for metallic sounds, such as the ringing of church bells, telephone bells, and similar previously undetected sounds. Occasionally a patient will show increased acuity for everything except the voice, a situation quickly recognized by the turning fork and acoumeter tests.

(e) The most striking subjective betterment is the very general disappearance of tinnitus aurium. This is most pleasing to the patient, as it is the first symptom, and a most distressing one, which is dispelled. There are cases, however, in which the tinnitus is not materially decreased, and in an exceptionally few instances there are complaints of increased head noises.

(f) My present records show improvement, varying from slight degree to a complete cure, in not less than 60 per cent of the cases treated, which must be regarded as a gratifying result.

(g) The treatment is entirely free from any harm to the patient.

Of course, my findings are perforce empiric. But it is a dominantly great truth of scientific evolution that empiricism is forcibly and eternally dynamic.

I offer you my research not for any intrinsic merit of the hypothetical theory that it may contain; but with the trust that you essay it in terms of trial and error in the crucible of the clinic where every measure, introduced into medicine or surgery, must inevitably conform to that ancient formula—*curare, cito, tuto et jucunde*—to cure quickly, safely and pleasantly.

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*Read before Section on Surgery, Illinois State Medical Society, Decatur, May, 1923.

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NONE EXPECTED

At a recent wedding reception the best man remarked to the prim little maid of honor, "Wasn't it annoying the way that baby cried all during the ceremony?"

"It was simply dreadful," she replied, "and when I get married I'm going to have engraved right in the corner of the invitations, 'No babies expected.'"

OPERATIVE TREATMENT OF FRACTURES*

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About twenty years ago I was beginning to get a chance to do operative fracture work at the Boston City Hospital—frowned on a bit as a young radical, but tolerated because I was showing results, and have kept at it.

About this time Lambotte was doing the same thing in Belgium.

Later came the wild radicalism of Lane and others, who wanted to cut down on everything from Colles' fracture on.

The question has been befogged a bit by the general surgeons who knew nothing of fracture work, but were good openers.

We shall never have a history of the calamities which followed.

Lane's trail and the later expeditions of his followers and of the bone-grafters left a trail that might recall the bleached bones that marked the trek of the pioneers of past generations across the flat lands of the middle west.

Now, I think, we have reached a stage in the game when the men who have really learned something about fractures ought to pronounce what the scope of the operative work should be.

Latterly some of these men have met hoping to standardize non-operative procedures and while operative work has not been to the fore in the discussions yet, and in spite of the fact that nearly all of these men have been operating surgeons (not orthopedists) yet their standpoint has proved curiously conservative and definite, and on the whole very much, what I am presenting here.

All men of wide experience covering not only their own work but much referred work with many cases of end-results not wholly satisfactory, they seem to have come to the conclusion that conservatism has its argument in fracture handling.

Operative results, often good, are not seldom bad, not rarely calamitous.

Operating because one doesn't know how to do the other thing is malpractice.

Non-operative handling of fractures with modern perfected apparatus gives really excellent functional results in the vast majority of fractures.

Operating merely to secure a pretty x-ray, is not justifiable, considering the expense in time and risk.

Doctors, patients, and even the courts may, and must be, taught to estimate results in terms of function,—and external appearance also, fairly enough,—and not in terms of x-rays. The x-ray is a diagnostic aid and should not be an arbiter.

The dread of facing a result not decorative in the x-ray picture, even with everything else satisfactory, has led to the commission of countless operations, even by honest careful men, and I hate to think to how many calamities.

I do not think myself a pessimist but I happen to be a sort of court of last resort for many people in my little corner and the results I've seen in latter years are a bit saddening.

What we need is a better education in fracture work, better handling of apparatus, better physio-therapy and exercise work in convalescence, not more operating.

Take for example fractures of the shaft of the femur.

No man who is not competent *and equipped* to apply traction (Buck's or Thomas or Pierson) or skeletal traction,—and to apply it *right*, and to see that it stays right, has any business talking about plates and grafts.

Half our hospitals are insufficiently equipped for non-operative fracture work, but *that* isn't an indication for operating,—*except* on the superintendent and trustees!

There are many hospitals; let the patient go where there is equipment.

There are fractures that *must* be treated by operations.

Fractures of the patella with separation.

Fractures of the olecranon.

Fractures of the carpus, irreducible, and carpal luxations but not the reducible ones.

Fractures of the radial head—by no means all of them.

Separation of the humeral epiphysis,—at the shoulder—often,—and a few shoulder fractures.

Fracture luxation at the shoulder.

Both bones of forearm, a few cases.

Fracture luxation at the hip.

Fractures of the femur,—transverse frac-

*Read before the Inter-State Assembly of the Tri-State District Medical Association, at Des Moines, Iowa, Oct. 29, 30, 31 and Nov. 1.

tures particularly that can't be reduced or can't be held.

Very rarely, fractures of the lower leg.

Fracture luxation of the astragalus.

Rarely tarsal fractures of unclassified sorts.

Really that is about all, so far as fresh cases go.

And as to late cases, mal-unions, and non-unions.

Today we have resources in the way of diathermy and massage and of ambulatory splints that have removed very many of these cases from the operative list.

What of plates and bands after reduction?

Justified only if one can not do it otherwise.

Plates and bands interfere with union as a rule, do not promote it, surely, and are called for only in cases not to be held in any other way. Moreover they do *not* do away with the need of protective splinting. Error in this is often costly.

In practice they are called for in a certain proportion of fractures of the femur, in some forearm fractures, rarely in humerus or tibia cases.

As a rule they interfere with on delay final repair,—so much that they should usually come out after fulfilling their function of primary fixation. Most plates and nearly all bands should come out.

What about grafts?

To my mind, all the complicated development of massive grafts, panel-grafts, intramedullary grafts of autogenous or foreign bone has been a failure as far as recent factures are concerned and only too often in the later ones.

The calamities and the quiet failures are too many, even if not widely published.

The principle of bone-grafting is of real value of course. Here and there "slide-grafts" are wise.

To bridge defects, mass grafts are of value.

For repair in cases of non-union or long delayed union, the work of McWilliams and others, the experience of all of us, show clearly enough, I think, that our reliance should be on "chip-grafts," osteo-periosteal grafts of no great bulk, cut from bone of vascular structure, of high growth capacity, with great total superficial area, used to pack into defects in refreshed bone, and to splint under the periosteum across defects. These grafts work, the massive ones only too often unite at one end, wobble at the other, and wait.

I do not mean to be understood as condemning the big grafts entirely. They are of greatest service to me in reconstruction problems. What I do mean to say is that their use is limited and that the chip graft with diathermy and the stimulus of early weight bearing and use are to be our chief reliance in the delayed union cases.

On the whole, then, all the modern trend is in favor of development of skill in the use of equipment in routine fracture work, and toward the limitation of operative work to exceptional cases, to work in fully equipped institutions, and in the hands of men properly equipped, not only as operators but as experienced handlers of fracture cases.

Logically, this would seem to point to the orthopedists as fracture handlers.

Oddly, it doesn't seem to work out that way. Here and there an orthopedist is the man.

Others, concerned with "the chronic treatment of continuing disease" are less suited to the handling of acute cases.

The compromise type of man, the "six-weeks orthopedist" of our war forces, a young general surgeon, intensively trained for a short time in apparatus work is the best type.

However little we like it, all of us are going to have to recognize fracture men if not a fracture service in all our big hospitals if we are to get results.

With us in Boston the men who are coming up, who are getting results, who are going to make progress, are of the type noted,—young general surgeons, trained to operate, only when operation is needed, trained to work for end-results only, trained to skill in non-operative work, trained to combine eagerness with patience.

We have these men coming up,—in Boston the Massachusetts has at least two,—at the *City* I can name three, and every community is going to have them.

Operative work on fractures has a place, permanent, valuable. It has been discredited by the effort of untrained men, facile operators, to throw the whole of fracture work into the operative field where it doesn't belong.

This furore has begun to wane.

We are in position now to evaluate this thing with some accuracy.

Fractures in the next decade are going to be better treated with commensurate results.

In the meantime we may lay down certain broad rules.

Never operate unless the outlook on a non-operative basis is bad,—or unless you can make it better.

Do not operate to get a better x-ray picture.

Keep one eye on form.

Keep both eyes on function.

As to delayed union:

Many need not operation but skilled treatment.

Others (what I have called the displacement class) need reposition and fixation; often temporary plating; grafts usually superfluous.

Others need bone stimulus,—bone bridging.

Refresh, pack and splint in small grafts; fix by splinting.

Intramedullary or inlay "grafts" live or boiled belong to exceptional cases only.

REVIEW OF THE TREATMENT OF SYPHILIS *

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The date of the appearance of syphilis is a much debated question. There are two theories, one being the pre-Columbian, which bases its evidence on certain references made to the disease in the Bible and in Shakespeare's works. The Columbian theory accepts no evidence as authentic, which has been found prior to 1494. At this time a great epidemic spread rapidly over the eastern hemisphere, affecting all clans and all races. At that time, Charles VIII was making his raid into Italy with an army composed of mercenaries collected from over entire Europe. After they had been successful in taking Naples they were not able to hold the city, due to the fact that the army became suddenly ill with a venereal disease. They were therefore forced to retreat, carrying the disease with them. The condition spread rapidly and fatally as a new disease in virgin soil is prone to do. In one year it had reached France, Switzerland and Germany. It was entirely new in its manifestations.

Whenever the affection made its appearance in another country the disease was named for the people from whom the infection was supposed to have been obtained. The English and Turks called it the French disease; the Russians called it the Polish disease; the Hindoos and Japanese called it the Portuguese disease. The Spanish considered it as having been introduced from the new world and called it the disease of the Espanola Isle. Due to its appearance at this time, it would be easy to conclude that Columbus and his sailors had brought the disease back from some of the ports they had visited during their voyage of discovery.

The disease was quickly confused with the other venereal diseases—gonorrhea and chancroid. It was thought that the three diseases were different manifestations of the same condition. In 1767 John Hunter strengthened this confusion by producing syphilis in an individual inoculated with pus taken from a patient suffering with gonorrhea. Not until 1838 was the identity of syphilis again questioned. At this time Phillippe Ricorde proved that syphilis and gonorrhea were distinct diseases and enunciated the theory of primary, secondary and tertiary syphilis. Its identity was not made certain until 1905 when Shaudin and Hoffman demonstrated the *spirocheta pallida* in hard chancres. In 1911 Noguchi completed this work by growing the organism in pure culture.

Very early in our knowledge of syphilis the beneficial effect of mercury was realized. In 1530 Francastor wrote "The action of mercury on the scourge is marvelous, either because of its affinity for heat and cold or because its magic virtues are derived from some occult force whose mysteries escape us." The drug was given in most heroic doses, the toxic symptoms being striven for rather than avoided. The stories of falling teeth and decaying bones were so common that our patients of today still hear about them and fear such is to be their fate.

Fortunately, such deleterious effects are no longer necessary, it now being our primary effort to build our patients up physically rather than to break them down. With this in mind, our syphilitics are put in the best condition possible before they start their intensive treat-

*Read before the Chicago Council of Medical Women, February 26, 1924.

ment. They are subjected to a careful physical examination, with special reference to certain organs that we know to be taxed by the drugs used for the elimination of the disease. Special care should be given to the teeth and any defects corrected before the mercury treatment is started. The kidneys should be tested as both the arsenic and mercury act upon them. The blood picture should be studied; also a knowledge of the blood pressure is important. The central nervous system should be examined to ascertain the condition at the beginning of the treatment so that comparisons may be drawn during the following years. Intercurrent diseases should be considered. We must not forget the fact that a syphilitic is equally as susceptible to other diseases as is the nonsyphilitic. With this in mind, we will not attribute symptoms to the specific infection until we have sufficient reason for doing so.

The habits of the individual during treatment are more or less important. The diet should be abundant, but simple. Acids should be reduced in amount at all times and completely eliminated from the diet during the treatment with mercury. Those foods which are irritating to the bowel should also be avoided at this time. However, free elimination is important, and for this reason the diet needs must have some coarse foods. Blood-building food is also indicated, due to the deleterious action of the antisyphilitic treatment on this system.

The disease seems to be more serious in alcoholics. Therefore, the intake of alcohol is reduced as much as possible. While there is no proof, it is the general opinion that alcohol interferes with the action of mercury.

If the mouth and throat are involved, the use of tobacco should be limited, otherwise it has no effect.

Sleep and exercise are equally important. This should be impressed upon the patient, making him realize that this part of the medication is assigned to him.

The local treatment of the lesions under our present management is very simple, as they respond quickly to the arsphenamin. The lesions should be kept clean and as sterile as possible. A genital lesion should never be treated locally until a positive diagnosis has been made. There is no particular hurry about cleaning up the local lesion as it has no effect on the course of the disease. The disease has already become generalized by the time the local lesion is of any size. After diagnosis the lesion may be treated with mercury ointment, powder or wash.

Hydrotherapy is very popular with the lay people. It is a subject which frequently has to be discussed with them. Hydrotherapy sanatoria are beneficial only inasmuch as the patient is more faithful to treatment while away from home. Under such circumstances, he is making a business of his treatment. Some of the waters make the patient more tolerant to mercury. Usually while at such a sanitarium the patient drinks large quantities of water, takes frequent hot baths and massages, all of which help elimination, thus enabling patients to take large doses of mercury. Their greatest value rests in the regular life that the patient leads, with plenty of rest and regular exercise. In view of this we consider there are two classes of people who are helped by this form of treatment. First, those who will not be faithful at home and, second, those who do not respond to the amount of treatment that can be given while they continue their regular habits.

Mercury is given by several different methods. We most often think of it in the treatment of syphilis as being given by inunctions. This, however, is not the only route by which it is administered. When inunctions are employed one dram of the official unguentum hydragyrum is used daily. This is very thoroughly massaged into the skin, it requiring about one-half hour of quite steady rubbing to accomplish this. Any excess of mercury may then be removed. This is repeated six nights a week, the patient being instructed not to bathe the areas so treated during the week. On the seventh day the patient does not use the inunction and is allowed to have a very hot bath. In selecting the location for rubbing one should avoid those areas where there are many hair follicles as such areas are more apt to develop a dermatitis. It is also advisable to use a different area each night. Those areas most frequently used are the calves of the legs, the thighs and either side of the abdomen.

Infants are frequently treated by applying the mercury ointment to the binder. In this way the activity of the baby massages the ointment into the abdomen. In adults the mercury may be applied to the soles so that by walking the

rubbing process takes place. When mercury is given by inunction, absorption occurs so that it may be detected in the blood in twenty-four hours.

A slower method of administration but one which the patients prefer is by mouth. By this avenue the mercury does not appear in the blood for three days, and then in varying amounts. Mercury and potassium iodid in solution is a frequent combination for oral administration. In infants very good results are obtained by the use of protiodid of mercury pills. This oral method, however, is not satisfactory and should be employed only under particular circumstances, such as traveling or marked intolerance to treatment. The oral method is slow and the absorption is uncertain. It is also most irritating to the gastro-intestinal tract. This is manifested by abdominal pain, loose bowel movements and bloody stools.

A third method is that of deep muscular injection. By this method the mercury appears in the blood in three or four hours. The soluble or insoluble form of mercury may be used. The injection is given in the buttocks, care being taken in the selection of the site to avoid the large blood vessels and nerves. One should also avoid the area subject to the greatest pressure while sitting. A needle at least an inch and a half long should be used. It is important these injections be intramuscular and not subcutaneous. One should also make sure that the lumen of needle is not in a blood vessel, especially when insoluble mercury is used.

The soluble salt most frequently used is the bichlorid in a one per cent solution, giving 1/5 to ⅓ gr. three times a week. The oxycyanid and benzoate are also given. The advantage of this method rests in the accuracy of the dose and its ease of administration. The injections are only slightly painful and are much preferred to the unsightly appearance of the inunctions.

The insoluble preparation has the advantage of requiring less frequent injections due to the fact that a single injection forms a reservoir from which the mercury is available for absorption for about one week. Mercury salicylate in oil is the form most frequently employed, one grain being given at a dose. There are, however, disadvantages to this method, the most serious being the painful encapsulations, which frequently result. These encapsulations may interfere with absorption, later breaking down and flooding the system. There is, under such circumstances, no way to stop absorption, and the resulting mercuritization may be very severe. Its administration is not as simple as the soluble since the danger of embolism is greater.

Of late, mercury is being given very frequently by the intravenous route. The action is quick, the dose is constant and the administration is not painful. Simple bichlorid solutions were first used. Mercurosal, a product derived from salicylacetic and mercuric acetate is now being used with good results. A more recent preparation is flumerin the disodium salt of hydroxymercuric flouricine.

The mercury thus administered circulates as an albuminate. It has a direct action on the spirochete as well as its usual alterative effect. It is stored in the liver where it may be found many months later. The drug is excreted by the kidney, colon and skin. It appears in the urine two to twelve hours after it reaches the blood and in the stool twelve hours later.

The tolerance varies greatly, depending on the ability of the individual to eliminate the drug. The toxic symptoms that must be most frequently watched for are: salivation, nephritis, gastro-intestinal disturbances and loss of weight. Salivation is first evidenced by a metallic taste, swelling of the gum tissue behind the third molar and a sodden accumulation around the teeth. This is followed by a copious secretion of saliva.

When attacking the kidney the principal action is on the convoluted tubules. This is evidenced clinically by a lessened output of urine of high specific gravity, containing blood, albumin and granular casts. Such an involvement is not dangerous to the patient if recognized early and properly treated. The mercury should be stopped, the patient put to bed on a bland diet with stimulation of the bowels and sweat glands.

The bowel is frequently irritated causing severe abdominal pain and diarrhea. Its action usually is on the colon and may form a serious complication to the continuance of mercury treatment. A bland diet with rest usually relieves the condition sufficiently so that treatment can be continued by the use of some of the arsenic preparations.

Arsenic was used for the treatment of syphilis

long before its specific action was known. It was first used as Donovan solution in 1839. It was thought to energize the action of mercury. Later a preparation known as atoxyl was introduced. This product has never reached a high degree of popularity due to its supposed action on the optic nerve.

In 1906 Ehrlich gave us the preparation of arsenic that revolutionized the ideas of treatment. He had long searched for a drug with a specific affinity for the parasite and not for the host. In this six hundred and sixth experiment he found such a drug. This product was received with great enthusiasm, it being the belief that one injection would sterilize the patient. Very quickly clinical results proved that the drug was not capable of so phenomenal an action but that it had very remarkable spirocheticidal power.

Arsphenamin was first put on the market as a powder having an acid reaction. This required neutralization before being used. Ehrlich continued his investigations until the nine hundred and fourteenth experiment gave him the preparation now so widely known as neosalvarsan. This is a powder of alkaline reaction which is more simple in its preparation and administration.

The free distribution of these drugs was greatly limited for some time due to the fact that the products were patented. The patent was applied for, not because of any selfish motive, but because Ehrlich, with a knowledge of the toxicity of the drug and the great demand for it feared that inferior preparation would be put on the market which would not only be dangerous to the patients but interfere with the accumulation of statistics on the original product. These patents are no longer observed. Many companies in various countries are now making the drugs which are generally known as arsphenamin and neoarsphenamin. Arsphenamin is a yellow powder soluble in water and has a strongly acid reaction. It is furnished in hermetically sealed ampules, as it deteriorates when exposed to air. Triply distilled sterile water is used for dissolving the drug. The last distillation should be over glass and not more than twelve hours before the injection after which it should be sterilized by boiling. The glass when used for mixing should be rinsed in this water before use. This solution must then be neutralized with 15 per cent. NaOH. before it is ready for injection. Care must be taken that this neutralization is complete as the drug is very toxic if given in the acid state. Many of the bad effects of arsphenamin have been traced to this error. Enough sodium hydroxid should be added to produce a heavy white precipitate which quickly dissolves. Another drop of the alkali is added to make sure that no more precipitate will form. The excess of sodium hydroxid should not exceed one-fifth the amount required for neutralization. The total volume is then made up to 25 c.c. per .1 gram of arsphenamin. The solution is then ready for intravenous injection by the gravity method.

Neoarsphenamin is a yellow powder readily soluble in water, having a neutral reaction. It is furnished in ampule doses as is arsphenamin. This product is lower in its arsenic content, having only 21 per cent arsenic while the arsphenamin has 31 per cent. It is, therefore necessary to give larger doses to obtain the same therapeutic effect. It has the advantage of greater ease of preparation. Its solution does not require neutralization, nor does it need to be given in as large quantities of water. Twenty c.c. of water is sufficient for the maximum dose so that it can safely be given with a syringe if the solution is not forced into the circulation too rapidly. It has the further advantage of being less toxic. Clinically, in the majority of cases, it seems to give equally as good results as arsphenamin.

Early in the use of arsphenamin there were thought to be many contraindications. Those have been eliminated one by one until at the present time the only contraindication that is recognized is an idiosyncrasy to the drug. Nephritis which was formerly thought to be a contraindication is now known to be frequently due to the disease and to respond well to the treatment. If not due to syphilis the drug, cautiously given, seldom has any marked effect on the nephritis. Those having an involvement of the circulatory system were also considered bad risks, but now they too are being treated with very good results. It is in the pregnant woman who was once barred from treatment that we are getting our most encouraging results. The percentages of stillbirths and congenital syhilitics

have been astonishingly reduced by treatment during this period.

The untoward reactions produced by arsphenamin might be divided into four groups; the local, the immediate, the intermediate and the delayed.

The local is usually due to faulty technic. If there is too much trauma to the vein a phlebitis with thrombosis may result. If even a very small amount of the solution escapes from the vein into the surrounding tissues an infiltration of greater or less degree, depending on the amount will result. Such a condition is exceedingly painful and frequently results in obliteration of the vein. In some instances the infiltration may slough out, leaving an ulcer which is very difficult to heal. It is, therefore, very important to insure a free flow before the solution is forced from the syringe.

The immediate constitutional reaction is usually of a vasomotor type. There is a peripheral dilatation. The conjunctiva is injected and the face flushed. There is a sense of pressure in the chest and breathing is difficult. This is followed by severe abdominal and lumbar pain. There may be vomiting and diarrhea. Such reactions may sometimes be aborted by the injection of 1 c.c. of adrenalin.

The intermediate reactions are much more frequently encountered. These consist of headache, nausea, diarrhea and chills coming on from two to twenty-four hours after the injection. There may be any grade of reaction from one so slight as to be hardly perceptible to one which incapacitates the patient for a few days. The treatment for such a reaction consists of free elimination and light diet.

The delayed reactions are most severe. They occur several days after the injection. It may start as a simple dermatitis which goes on to complete exfoliation, robbing the patient of the outer layer of skin, many times before its termination. Instead of the dermatitis a late reaction may take the form of an encephalitis. Both of these reactions very seldom occur, but when they do they are frequently fatal.

Another arsenic preparation for the treatment of this disease was put on the market in 1918 by Kolle. This is silver arsphenamin. It is arsphenamin combined with silver. This drug is thought to have a much higher spirocheticidal action with lower toxicity. The per cent of reactions resulting seem to be less than with arsphenamin. Frequently patients who are unable to take arsphenamin are able to tolerate fairly large doses of silver arsphenamin. That its therapeutic effect is superior to the older drug has not yet been proven.

The treatment of spinal involvement has been most unsatisfactory. It has been difficult to find a drug capable of penetrating to the central nervous system. Arsphenamin has been injected directly into the spinal fluid with rather severe reactions resulting but without marked beneficial effects. The spinal fluid has been drained at the time of the intravenous injection with the hope that osmosis would draw the arsphenamin into the spinal fluid. A method more frequently used is that of arsphenamized auto-serum. The arsphenamin is injected and given in the usual way. A half hour later 3 ounces of blood are withdrawn and the centrifuged inactivated serum is injected intraspinously.

Recently a new preparation has been giving more satisfactory results than has any other form of treatment in neurosyphilis. This preparation is known as tryparsamid. It is of little, if any value as a spirocheticide during the early stage of syphilis. It does not sterilize as well as arsphenamin nor does it heal cutaneous lesions as well. It has practically no effect on the blood Wassermann. However, it has quite a striking effect on the cytobiology of the spinal fluid. Those cases suffering from neurosyphilis seem to derive very marked beneficial results from the drug both serologically and clinically. Due to its effect on the optic nerve, the drug must be used with great caution and only when it is possible to have the eye grounds watched.

There is one other drug so generally used that it must be mentioned also. This is potassium iodid. This drug has no spirocheticidal action, but aids much in the treatment by breaking down the encapsulation, and thus exposing the organism to the action of the mercury and arsenic. It may be given by mouth or intravenously. When given by mouth doses from 15 to 200 gr. well diluted in water and given three times a day are used. More rapid results are obtained by the intravenous method and, at the same time, the gastro-intestinal tract is not irritated.

The signs of iodism are metallic taste, coryza,

headache and pain in the abdomen. Frequently there is an acniform eruption with no other signs of iodism. This can be controlled by giving small doses of Fowler's solution with the iodid.

Our object in treatment has been decidedly changed by the introduction of these late preparations. Previous to this, the only hope was to clear up the existing manifestations and to prevent their development in the future. With the discovery of the Wassermann test, our efforts became an assault on this positive reading instead of an attempt to deal successfully with syphilis as a morbid condition. It is now realized how inadequate this attempt was. We now know that we must treat long after a negative Wassermann is obtained, but just how much longer it is difficult to say. Unfortunately the treatment of syphilis cannot be reduced to terms of a mathematical formula, requiring so much arsphenamin, so much mercury and so many negative Wassermann tests. Most patients are still under-treated. In the old days of mercury treatment the patient resigned himself to years if not a lifetime of medication. With the advent of arsphenamin the pendulum swung to the extreme and it was hoped that one treatment would cure. Gradually we are recovering from this erroneous impression but the progress has been slow. Even at the present time, many patients are receiving inadequate treatment and inadequate treatment with arsphenamin is a far more serious error than with mercury. With the latter drug the germs were destroyed slowly, allowing the patient to develop a resisting property in his own system, rendering him partially capable of combating the disease himself. This is not true of arsphenamin. It enters the system in large quantities, acts quickly, destroys large masses of spirochetes in a very short time and passes out of the system, having stimulated no antibody formation. The result is that the patient is then entirely at the mercy of the medication for combatance of the disease. If the arsphenamin treatment is not adequate, the patient is in more danger than is the one who has not been treated at all. With this in mind, it seems wise to treat with both arsphenamin and mercury, givin the treatment in alternate courses.

The arsphenamin should be given as frequently as seems wise in the individual case. Most patients are able to take at least two injections a week. This should be continued until the system seems well sterilized of all the organisms freely accessible to the circulatory system at that time. Frequently twelve and often more injections are given in such a course. This should be followed by a period of mercury and iodid medication, which acts slower but is equally important. After a few weeks of mercury treatment the arsphenamin injections may be repeated. At the close of this course the patient is given a well earned rest from medication. During this rest period the blood should be examined and if positive, the same form of treatment should be repeated. If negative, the treatment should still be continued but in a less energetic manner for a year or more, depending on the severity of the case.

It is very difficult to give a standard of cure if a cure is possible at all. The goal toward which we strive is for the development of a permanently negative Wassermann together with the absence of clinical signs. If this is obtained over a period of two years, the patient is subjected to a provocative test, which consists of the injection of .3 gr. of neoarsphenamin followed by Wassermann tests every twenty-four hours for one week, another in fourteen days and one in twenty-one days. If these nine Wassermann tests are negative, and the spinal fluid is also negative, we can say to the patient that we can no longer find any evidence of the disease, and that to the best of our knowledge none exists, but for his own safety and for the safety of those dependent on him, he should have his condition checked up clinically and serologically from time to time throughout his life.

OBJECTS AND METHOD OF DIET ADJUSTMENT IN DIABETES

Diet regulation in diabetes aims to bring the supply of glucose within the individual power to utilize. Carbohydrate must become glucose before it can be oxidized. Fat yields twice as much glucose as protein. A diet largely protein therefore should contain less carbohydrate than when much fat is allowed. The critical point must be watched for at which acetone makes its appearance. Carbohydrate should be kept at the maximum short of this in order to reduce the amount of protein eaten. Cream is especially serviceable in sparing protein. —R. T. Woodyatt (*New York Medical Journal*, Feb. 1, 1922).

STANDARD SIMPLE RULES FOR INSULIN TREATMENT OF DIABETES AND ITS COMPLICATIONS *

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A. *Selection of cases:*

1. Only those true diabetics in which a well-balanced maintenance diet cannot be handled without glycosuria and hyperglycemia.
2. Treatment of complications of diabetes in *all* cases.
   a. Acidosis and coma
   b. Gangrene
   c. Septic infections
   d. Necessary surgical procedures
   e. Intercurrent diseases
   f. Tuberculosis.

B. *Detailed Procedure:*

I. Dietary Regulation.

1. Principles involved:
   a. Give caloric requirement
   b. Maintain nitrogen balance
   c. Maintain proper balance between proteins, carbohydrates and fats, so as to keep ketogenic—antiketogenic ratio at 2.0 or below.
2. Simplified application of above:
   a. *Caloric need.*
   Allow 12½ carolies to each pound at age 30-35. Add 5 % if under 25. Subtract 5% if above 45. Subtract 5% for females.
   Example: Female, 50 years, 130 pounds. 130×12.5=1625 calories. Subtract 5% for age and 5% for sex (10%). 1625—162=1463 calories. Represents basal need, to be increased 20—30% when patient returns to ordinary activity.
   b. *Maintaining Nitrogen Balance.*
   Present-day authorities on metabolism are generally agreed that 1 gram of protein per kilogram of weight is a safe protein ratio. Although investigations have shown that two-thirds gram will maintain nitrogen balance we must consider two practical objections to this principle.

In the first place, many diabetic cases are decidedly under weight and in the catabolic processes many have used up their own body proteins, especially the non-obese type, and will need more proteins in the rebuilding process than the amount ordinarily required.

In the second place, it is rather difficult from the dieticians' standpoint to plan a palatable carbohydrate low diet, with so minimum amount of protein to which to add the fat necessary to equal the metabolic requirement.

Example: Patient 130 pounds, mentioned above.

$\frac{130}{2.2}$ = Number kilograms = 59. Therefore 59 grams protein every twenty-four hours.

c. Proper Balance Between Proteins, Carbohydrates, and Fats, carrying out in general Newburgh's high fat principle.

1. *Carbohydrate.* A formula worked out after many attempts to standardize as much as possible a definite diabetic dietary regime and found most practical in the average cases is:

$$\text{Carbohydrate grams} = \frac{\text{Caloric requirement} - 7 \times \text{Protein}}{30}$$

Example:

$$\frac{\text{Caloric need } 1463 - 7 \times 59}{30} = \frac{1050}{30} =$$

35 grams carbohydrate.

2. *Fat.* Have now determined our patient (as for example in this case) should have 59 grams protein and 35 grams carbohydrate. We now make up the balance of caloric requirement in fat.

Example:

59 grams Protein yields (4 calories to gram) 236 calories.

35 grams carbohydrate yields (4 cal-

*Read before American Congress on Internal Medicine, Feb. 18, 1924, St. Louis, Missouri.

ories to gram) 140 calories.
Total 376 calories.

Balance is therefore 1463 minus 376 =1087 calories.

As fat yields 9 calories to each gram we need $\frac{1087}{9}$ =121 grams fat to complete this patient's caloric need.

3. Determination of ketogenic—antiketogenic ratio. Ratio=

$$\frac{\text{.90 fat plus .46 protein}}{\text{Carbohydrate plus .58 Protein plus .10 fat.}}$$

Should be 2.0 or less.

Example in this case:

$$\frac{\text{.9 (121) plus .46 (59)}}{\text{35 plus .58 (59) plus .10 (121)}} = 1.69$$

N. B.—Using the above method of calculating proteins, carbohydrates and fats makes working out this ratio unnecessary, as every case will fall within the proper ratio.

II. Measuring Insulin dosage:

1. Having assured ourselves of case being a true diabetes mellitus, with characteristic hyperglycemia we now determine the patient's tolerance after he has been on the above outlined maintenance diet at least three days, by subtracting the urinary sugar output in *grams* after it has fallen to a fairly steady level on the minimum maintenance diet, from the *available* carbohydrates in diet (roughly all carbohydrates plus half protein). We know that this is the amount that his carbohydrate metabolic apparatus *can* handle and all *above,* i. e., all that is excreted in urine, we must supply with insulin in the following ratio:

1. Case of average severity 1 unit to each 2 grams urinary sugar.

2. Case of marked severity (acute) 1 unit to each 1.5 grams urine sugar.

3. Case of mild carbohydrate intolerance 1 unit to 2.5 grams urine sugar.

III. *Incidental details:*

1. In hospital one week surely, preferably two weeks.

2. Blood sugar every 2 days, after first week every 3 days.

3. Weight daily.

4. Increasing diet. When we have our patient sugar free and glycemia reduced, let us say, above the fifth or sixth day of treatment, we now allow him a greater range of activity; for instance, up all day and walking about hospital or neighborhood, and add 20% to his caloric need. Give additional insulin in the same proportion as outlined before, e. g., our case has:

59 grams protein,

35 grams carbohydrates=1463 calories,

121 grams fat,

adding 20%=(1463×.20=292 calories to be made up in carbohydrates and fat in proportion of about 1 to 4. Roughly:

$\frac{\text{Additional calories}}{40}$ =grams carbohydrate to be added and

$\frac{\text{Additional calories}}{10}$ =grams fat to be added.

i. e., in this case 7.5 grams carbohydrate and 29 grams fat. Therefore four additional units of insulin. After going back to moderatively active life an additional 10% should be added.

5. Subsequent Insulin dosage: Anticipate each increase in diet by increasing 1 unit of insulin to each 2 grams carbohydrate added to diet as detailed above. Frequently the physiological rest afforded the pancreas by relieving the overstrained function will result in greater tolerance, and patient's insulin can be lowered, 1 or 2 units at a time, without glycosuria reappearing.

IV. *Treatment of complications:*

1. Acidosis, mild.

a. Must not put off too long as case may go into severe acidosis and coma. Begin insulin as soon as blood sugar and first twenty-four hour urine output is known.

b. Must not cut down carbohydrate in diet too much as the insulin must

have carbohydrate to burn in order to oxidize the fatty acids.

c. It is best to give divided doses, three or four times a day for the amount decided upon, especially where the blood sugar is not very high, as one large dose may too suddenly lower the blood sugar at the same time not distribute its oxidizing effect along the course of the entire day.

2. Extreme acidosis with impending or actual coma.

a. Symptoms: Muscular weakness and drowsiness, pain in the limbs, back, and abdomen, nausea, flushed cheeks, Kussmaul respiration (deep, slow, profound), dry, parched tongue and frequently retention of urine.

b. Detailed treatment:

1. Immediate and absolute rest in bed.
2. Keep warm with hot water bags, etc.
3. Gastric lavage with 5% sodium bicarbonate solution.
4. Colonic flush with similar solution.
5. Catheterization every three hours (in case urine retention should be a factor).
6. Watch fluid intake, at least one one quart every six hours by mouth, proctoclysis, hypodermoclysis, or intravenously. Coffee by mouth is desirable.
7. Digitalis hypodermically. 1 cc. of Digalen every hour for four doses, then 2-3 cc. once or twice a day until patient is out of danger.
8. Insulin dosage, 30 units at once, buffer by either 150 cc. of orange juice or hyperdermoclysis of 300 cc. of 4.7% glucose. In three hours another similar buffer and three hours after repeat the 30 units and buffer again, as detailed above. Repeat this procedure every six hours until the severe acidosis and comatose condition are relieved.
9. In extreme danger use insulin intravenously together with glucose by same route.
10. It is important to control insulin by repeated blood and urine sugar examination. It is a good plan to allow a small amount of sugar to remain in the urine in order to be safe from coma of hypoglycemia provided we rid the patient of his acidosis.

3. Gangrene infection and necessary surgical operation:

a. Same principle as usual in noncomplicated diabetic case, except that things should be hurried up if the gangrene is progressive so as to prepare for early operation when indicated, that is, within twenty-four to forty-eight hours. The best plan is to push the carbohydrates moderately and give insulin accordingly. The balance of judgment in this matter requires considerable therapeutic courage and care. On the morning of operation of any diabetic give 20 units of insulin without buffer as the hyperglycemia of shock will act as such.

University Club Bldg.

TREATMENT OF PNEUMONIA *

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My paper this evening is on a subject which has long been before the medical profession and one which does not give promise of being eradicated by public health measures. As long as we have bacteria in the upper air passages and as long as people are subject to injuries and infections, pneumonia shall continue to be an important factor in the termination of life.

Let me say at the start that I have no wish to give you the impression that I have solved this problem—far from it. My only desire is to review the publications of some of the recent workers along this line and to point out and

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emphasize some few points which I believe in the light of my own experience are essential in the treatment of this disease.

It has been said that the treatment of this disease depends more upon nursing than upon medical skill. I agree with the writer that this is about one-third or perhaps one-half the truth. "As a matter of fact, the treatment depends mainly upon the prompt and specific application of many well-established medical procedures applied at the correct time; not too soon or too late. And the more carefully the patient is watched and the more carefully these measures are applied at the correct time, the more successful will be the results." There shall be no attempt this evening to go into detailed treatment of the different types of pneumonia because very largely the same principles apply in all types.

There is probably no disease in which the treatment of the patient and not the treatment of the disease is so important as in pneumonia. Of course, the preferable thing would be the prevention of this disease and I firmly believe that if it were made a definite rule, and that this rule could be enforced, that every person with a respiratory disease should go to bed immediately and stay quiet there until the respiratory disease had been cured, that pneumonia would be practically eliminated. This of course does not apply to anesthesia or aspiration pneumonia or that due to injury or septicemia.

My beloved teacher, Doctor William E. Quine, taught us that he could abort pneumonia by the use of mild chloride of mercury. My experience has led me to believe that in the cases in which he felt the pneumonia had been aborted, it was not due to the calomel which he gave but to the rest in bed and general nursing care which he gave the patient. I am sure I have seen cases where, following a chill with high temperature, increased respirations, slightly rusty sputum, a few rales posteriorly over one lobe, the symptoms would disappear as if by magic when the patient was put to bed, sponged for temperature, and perhaps be given a few grains of aspirin and instructed very carefully about lying quietly in bed; and no cathartic was given at all.

We will all agree that the patient should be put to bed and that—early. The instruction in regard to lying quietly in bed is perhaps the most important single thing that can be done in practically all types of pneumonia. I do not mean by this that the patient should not be turned at regular intervals so as to avoid hypostatic congestion, but he should be told not to get out of bed under any consideration and that he must lie as still as possible and especially avoid coughing. For this reason I do not want my early pneumonia patient to talk any more than is absolutely necessary and I want him to attempt to choke back his cough if possible.

Very well do I remember a case of pneumonia during the influenza epidemic in 1918 which I believe illustrates this point more markedly than any other case I have ever seen.

Mr. R. S., aged 35 years, married, wife and one son, both sick with the "Flu." The family was being cared for by the wife's mother. The patient had been sick two days, running a rather high temperature, coughing considerably and very restless. He had insisted upon waiting upon himself because he felt that his mother-in-law had more than she could do to take care of his wife and son. He was seen each day, but on the morning of the third day of his illness his respirations were increased to 36-38, he was spitting frothy, bloody sputum, temperature was 104.6 and there were marked rales over the entire right lung posteriorly, although I could find no consolidation. In fact, he was, it seemed to me, a beginning Flu-pneumonia, of which we saw so much in those days and the final results of which, in so many cases, we know too well. I frightened him by telling him if he did not stay in bed and stop his coughing that I believed he would die, and I impressed it upon him that he must lie perfectly still and not even talk and that he must allow someone to wait on him. He was getting small doses of aspirin and belladonna. I did not change the medicine in any way and, very much to my surprise, when I saw him the following morning, his temperature had dropped to 101, his respirations to 26, and he had stopped spitting rusty sputum, and the rales had almost entirely disappeared. He made an uneventful recovery in a few days.

So impressed was I with this particular case that I have attempted the same thing in a good many instances since, and although I have never seen such striking results, yet I am positive that keeping quiet is perhaps the one greatest factor in the prevention and treatment of pneumonia.

When it comes to the discussion of the care of the patient I feel that fresh air is important at all times, but some patients do not do well when it is too cold, and for that reason I prefer to have my patient in a warm, well-ventilated room. In other words, I want my patient to be comfortable, and as a cold room makes some people very fearful and uncomfortable, they do better in a warm room.

The diet does not seem to me to be so important as perhaps in some other diseases. During the fever stage, if the patient can take food and not be distressed, I can see no harm in giving it. This should be light and nourishing and the patient who can be well fed through pneumonia, the same as we now feed a typhoid, comes through in better condition, and it seems to me with fewer complications.

Fluids should be given in good quantities and my orders are to give from two to four liters per day. If the patient cannot take this by mouth, I do not hesitate to give it per rectum or beneath the skin.

Perhaps the one thing which we will not agree on is the care of the bowels. Personally, I seldom ever give a cathartic during the course of pneumonia. And the longer I practice this method the more assured am I that it is correct. I advise a single, low enema per day. In a few cases where the patient is uneasy about the bowels and where we have not obtained good results from the enema, I give an occasional very mild cathartic. I am sure the patient is more comfortable and there is decidedly less tympanites, which as we all know is a distressing symptom, and I have not seen bad effects from not using cathartics.

I do not hesitate to order warm baths for temperature in my pneumonia cases, providing I have a skillful nurse and the patient reacts well to the bathing. I do not use them if they make my patient uncomfortable or fearful.

When it comes to speaking of drug therapy I am sure there will be wide differences of opinion. I agree quite well with a recent article of Doctor Solis Cohen's of Philadelphia, in what he calls his Definite Plan in the Treatment of Pneumonia, with the exception that I have not used quinine in large doses, as he does. I am sure his use of pituitrin, adrenalin, and caffeine as pressor agents when the pulse rate equals that of the systolic pressure or Gibson sign is a good one to follow. I also agree with him in the use of small doses of digitalis from the very beginning of the disease up until the time when the respiration rate comes within ten points of the diastolic blood pressure, when one should immediately use large doses and thoroughly digitalize the heart. I agree with him that pituitrin is more effective than adrenalin but not so rapid in its action, and for that reason I use these agents according to symptoms. Pituitrin is also of value, I believe, where there is threatened pulmonary edema and for the tympanites, and probably, as Doctor Cohen points out, in the treatment of acute dilatation of the stomach, which is probably more common than we have been accustomed to think.

Caffeine, of course, is to be used in emergencies. Doctor Cohen, as I mentioned before, uses quinine in very large doses. With the dyhydrobromide of quinine and urea double hydrobromide of quinine given intravenously, he believes that quinine is not only a pneumococcuside but also believes that it neutralizes the tissue toxins as well. As I said, this I have not tried, but coming from a man like Doctor Cohen, I believe it well worthy of trial.

The only coal tar derivative which I use is aspirin and I do not use that often during the treatment of pneumonia. I do, however, believe that a few doses during the respiratory infection before the pneumonia has really developed is of a good deal of benefit. In some pneumonia cases I find that a dose of aspirin of five or ten grains will make the patient stop coughing, make him more comfortable and put him off to sleep even better than morphin, and I believe does no more harm.

The one drug which I use perhaps more than any other in practically all cases is belladonna, and especially do I believe that it should be used during the respiratory infection preceding the pneumonia. It keeps the secretions dried up, checks the cough and, I am inclined to believe, has a good deal to do in the prevention of a good many cases of pneumonia.

If the cough is troublesome, I do not hesitate to use morphin, heroin, or codein, and I am sure these drugs are very definitely indicated at certain times. I have entirely abandoned the use of expectorant cough mixtures and feel that they may do an immense amount of harm. If there is asthma, adrenalin is indicated and frequently gives very prompt and marked relief. For restlessness I use bromide and occasionally chloral. I prefer to give these drugs per rectum rather than by mouth because of less danger of disturbing the stomach.

In the treatment of pneumonia and pre-pneumonia infections alcohol in different forms has

been used. My own experience with this drug has led me to practically discard its use so far as the treatment of pneumonia is concerned. There are certain cases in which its food value may be of some benefit. Especially may this be true in people who are used to alcoholic drinks. Its value as a stimulant in tiding the patient over the crisis I have not been able to substantiate. From my own observation and experience I am led to believe that the less alcohol my patient has used before he developed pneumonia, and the less I prescribe for him, the better are his chances for recovery. I may be classed as a moral zealot when I make this statement, but I assure you I have no religious scruples against the use of alcohol as a medicine any more than any other stimulant, but my observations have failed to show its value. If there is delirium in a patient who has been an old drinker, whiskey will sometimes be of help, I believe. However, I have found that paraldehyde or chloral hydrate given in this condition will usually give even better results.

When there is marked pleural pain I use morphin and the ice bag or heat. I am still old-fashioned enough to believe that, in certain cases at least, the patient is more comfortable with a cotton or flannel jacket and sometimes I feel that they are even more comfortable when it is moist. If the heat about the chest makes my patient uncomfortable and restless, there is no question but that it should not be used.

I have not used the anti-pneumococcus serums to any extent but I think the time is coming when the specific treatment of this disease will be the accepted treatment. One reason why I have not used this is because I have not been in a position to type the different pneumonias. Perhaps I have been too careful about this, for in a recent acticle by Doctor C. N. B. Cumac of Gouveneur Hospital, New York City, he gave some very good results with the use of a polyvalent serum without typing. After testing for anaphylaxis he uses 100 cc. of serum every twelve to fourteen hours and has seldom had to use more than 300 cc. I have given a few patients polyvalent serum and I think it is quite possible that I gave an entirely too small an amount.

The more common complications occurring are empyema and lung abscess. These, I think, should be treated surgically and I shall not go into the detailed discussion of this treatment this evening.

The treatment of the patient during convalescence in whatever type of pneumonia is of very great importance and should be very much prolonged over what is usually considered necessary in other diseases.

In conclusion let me simply emphasize the things which I feel should be kept in mind in the treatment of this disease.

First of all—absolute rest in bed from the earliest possible moment; secondly, the use of belladonna, especially in the pre-pneumonic stage, and thirdly, the prompt and accurate use of pituitrin, adrenalin, and digitalis.

Pelton Clinic.

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THE TREATMENT OF LACERATED WOUNDS OF THE SCALP

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The treatment of lacerations of the scalp, due to the anatomical peculiarities of the scalp, differs somewhat from that of lacerations of other parts of the body.

The skin of the scalp is thicker than in any other part of the body and contains hair follicles, sweat and sebaceous glands in great profusion. The hair follicles often perforate the skin and extend down in the superficial fascia beneath the skin. The superficial fascia consists of a network of connective tissue fibres extending from the skin to the aponeurosis of the occipito-frontalis muscle. These fibres are so arranged and are so dense that the three layers, from a surgical standpoint, may be considered as one.

Beneath the occipito-frontalis aponeurosis is a layer of very loose connective tissue which allows free movement between the three upper layers and the pericranium below, a dense thin membrane loosely attached to the skull except at the sutures, where it dips down between the bones.

The scalp is freely supplied by blood vessels, the frontal, temporal and occipital arteries being the principal sources of supply. In the parietal, frontal and occipital regions are small veins com-

municating directly with the sinuses inside the skull.

Infection and hemorrhage resulting from laceration of the scalp are particularly serious because of the ease with which they spread in the sub-aponeurotic and sub-pericranial layers. An infection in the sub-aponeurotic layer, aside from its local manifestations, may give rise to a thrombosis of a communicating vein with a subsequent thrombosis of a sinus. Beneath the pericranium a severe necrosis of the skull may occur.

In treating lacerations of the scalp the hair is first shaved to a distance of at least three inches from the wound. The wound is cleaned with neutral soap and Dakin's solution and the hemorrhage controlled by pressure or ligature. Shreds of tissue are cut away at once. The wound is then packed with gauze saturated in Dakin's solution. The infection which is common in these wounds, if closed by primary suture, is frequently not due to the entrance of organisms from the outside. Particularly when the wound is caused by a blunt instrument, many hair follicles, sweat and sebaceous glands are opened and the organisms which lie dormant in them are released. If the wound is packed with Dakin's solution, such as are released are destroyed and such follicles and glands as are opened, sterilized. Small pieces of devitalized tissue are dissolved and larger ones isolated.

This dressing is repeated every twelve hours until repair is undertaken, usually twenty-four to forty-eight hours after the injury. After thoroughly cleansing the wound as before, the edges are painted with iodine and the whole head covered with two thicknesses of gauze to prevent contamination of instruments and sutures by the hair. Apertures to give free access to the wounds are cut in this gauze. Any devitalized tissue not dissolved by the Dakin's solution is cut away. As the margins are insensitive in lacerated wounds, even in extensive wounds no anesthetic, local or general, is needed, except in children or unusual cases.

To close the wound modified mattress sutures of black silk are used. The needle is inserted about one-half inch from the wound, passes to the bottom of the wound and is brought out the same distance from the other side. It is then passed through both wound edges, very superficially and in the same vertical plane as the first part of the stitch, the silk drawn through and the suture tied at one side of the wound. With this suture the entire wound margins are approximated, with no possibility of an infolding or overlapping of the margins. Unlike the ordinary mattress suture, it does not interfere with the blood supply of the tissue, and put in as late as this may be drawn snug without danger of overtension from swelling of the tissues.

If the aponeurosis has been separated from the pericranium for any great distance, Carrel tubes are inserted and a smear taken from the depths of the wound before secondary closure. The free blood supply of the scalp preserves the vitality of the raised flaps for a long time.

This method has the following advantages over primary suture:

1. The incidence of infection is reduced.
2. The possibility of hemorrhage beneath the sutures and into the sub-aponeurotic or sub-pericranial space is eliminated.
3. In extensive wounds closure is instituted only after the microscope has shown the wound to be safe for closure.
4. Closure is made after x-ray examination.
5. A more thorough search can be made for fractures.
6. If seriously injured and in shock the routine treatment can be carried out without detriment to the patient.

30 North Michigan Avenue.

LABYRINTHINE VERTIGO WITHOUT MIDDLE EAR PATHOLOGY

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Differential diagnosis and summary of nineteen cases.

Vertigo due to affections of the labyrinth are often overlooked by the general practitioner. In the last five years I have seen nineteen cases of vertigo directly traceable to labyrinth conditions.

Five cases were due to injury; seven to old middle ear conditions; one to hemorrhage, Meniere's disease; six were apparent affections of the labyrinth in which there was normal hearing, no apparent pathology of the drum membrane, eustachian tube or middle ear. It is of this class of patients I wish to speak.

Case 1. Complaint: Patient complains of dizzy

spells coming on at irregular periods, once a week, twice a week and even two spells in one day. Just before the attack he feels somewhat exhilarated; there is a sense of fullness in the head, ringing as of bells far off in one or the other ear, usually the right. Then there is a sensation of having been struck on the side of the head in the region of the labyrinth, right side; a horizontal nystagmus takes place, causing the room to seemingly revolve to the left; this lasts about four minutes. The nystagmus or eye movement becomes slower and slower and finally stops. The patient then has an extreme sense of nausea, his face and hands are pallid and clammy, perspiration appears on the forehead and the attack ceases, leaving a severe headache over the parietal region.

From the beginning to the end of the attack the patient is unable to walk except at a staggering gait, simulating alcoholic intoxication. He is able while sitting to carry on business or talk in a sensible manner and never loses consciousness. The tendency when walking is to stagger to the left.

The attack is brought on by drinking coffee, taking a warm bath, sudden nervous shock, excessive reading, long exposure to the sun or other heat. Constipation seems to be a factor but he has the attack even when the bowels are moving freely.

History of the patient: Age 34, height 5 ft. 10 in., weight 165 pounds. First attack of vertigo came on following a severe mustard gas poisoning during the war. This attack lasted twenty minutes, the patient fell to the ground and while unable to walk never for a moment lost consciousness; following the attack he had extreme nausea but recovered and was treated for gas burns for a period of two weeks. The second attack came on eight months later, while the patient was working outdoors exposed to the sun. He stooped over, an attack came on which lasted fifteen minutes; since then the attacks are more frequent but less severe. Measles were the only childhood disease, no history of any venereal disease.

Family History: Married, wife and children in perfect health. Mother is living in good health, father killed in accident.

Examination of patient: Physical appearance, robust and apparently in good health, chest normal, no rales of consequence; heart slightly enlarged to the left but regular, no murmurs, pulse 72. Eyes, fundus and fields normal, corrected to 20/20 by O.D.=150, O.S. —100.

Ears: hearing normal except for slight tone disturbance, drum normal, eustachian tube patent (Rinne's, Weber's and Schwabach normal) caloric test gives normal reactions. Jones chair test: eyes return to normal after twenty seconds. Nystagmus during the test is normal in all positions. Past pointing is exact.

Nose: septum straight, little nasal pathology.

Sinuses: clear on x-ray and transillumination.

Teeth in good condition; x-ray negative.

Throat: tonsils removed, no larynx pathology.

Laboratory tests: blood pressure 120—80—40. Wassermann negative, urine negative, blood count and hemoglobin normal. X-ray of head shows no tumors.

During the attack the blood pressure is 140—70—40, dropping to 110—80—30 immediately following the attack, soon returning to normal. Past pointing is to the right on the right side and exact on the left. Nystagmus is violent with slow component to the left. Tinnitus is extreme on the right side and of the bells type lasting several minutes after the nystagmus ceases.

The above is a typical clinical picture of the five other cases.

Case 2. U. S. Veteran's Bureau case, a sailor, stoked furnace on battleship, 28 years of age. He had his first attack in 1919 and has continued to the present date.

Case 3. Boy, aged 12 years, had his first attack at the age of five. The case was diagnosed epilepsy, petit mal.

Case 4. U. S. Veteran's Bureau case. An infantryman in the 42nd Division. He was wounded in the leg and returned to duty, and was gassed in the Argonne drive; spent three weeks in the hospital. The first vertigo attack occurred at the time he was gassed and he has had slight vertigo attacks ever since.

Case 5. A young woman, 20 years of age. The stomach symptoms in this case were severe. She had been treated by the family physician and a specialist for gastritis and later treated by an opthalmologist for ophthalmic migraine. The symptoms in this case were identical with case one, with the exception of the extreme nausea and at times projectile vomiting. No brain tumor could be demonstrated.

Case 6. Physician, 54 years. Weight 185 pounds, apparently in good health. He has had vertigo attacks for twenty-eight years. The first attack came on while witnessing a baseball game and exposed to the sun. The attack lasted about ten minutes, during which he was unable to walk. He is now able to walk fairly well during the attack, but has extreme nausea when the nystagmus stops.

I am of the opinion that the pathology in these cases is entirely labyrinthine. The crista ampullaris of each semi-circular canal is an end organ of the vestibular nerve and plays an important part in maintaining the body equilibrium under normal conditions. In labyrinth disease and under excessive induced stimulations the equilibrium is disturbed and we get nystagmic eye movements. These signs are divided into "Signs of destruction disharmony" and "Signs of stimulation disharmony."

In the cases under discussion we have only to deal with the stimulation disharmony. This disharmony is caused by the stimulation of the endolymph current in the semi-circular canals. The movement of the endolymph sends impulses through the hair cells lining the canals along the nerve tracks to the eye, causing nystagmus in

the plane of the canal involved. When the tonus impulses from one labyrinth are suddenly suppressed or disturbed the equilibrium between the two labyrinths is broken and the tonus from the normal labyrinth acting without the proper restraint of the impulses from the opposite side causes a loss of body equilibrium.

The impulses from the two labyrinths being equal though antagonistic, a state of equilibrium is thus maintained, but in the cases cited one or the other labyrinth is made extremely sensitive by some severe external stimulation, such as exposture to sun, mustard gas or perhaps a certain predisposition toward any slight stimuli that increases as the patient grows older; even exposure to heat such as foundry furnaces will produce this condition.

Thus anything which tends to raise the blood pressure or a cranial hyperemia will cause exosmosis of a slight drop of serum from the lining capillaries of the labyrinth, thus stimulating the endolymph which transmits this to the fine hair-like nerve ends in the labyrinth. As this occurs on one side at a time it throws the equilibrium center off balance on one side, producing a "stimulation disharmony" with its accompanying symptoms of vertigo, nystagmus, nausea, etc., as pictured in case one.

Differential diagnosis: Hysteria sometimes simulates this condition only in a very superficial way. The nystagmus is not present or does not have a quick and slow component. If equilibrium is disturbed the body falls in any direction, never with any rule or certainty, whereas in the labyrinth type the patient always falls in the direction of the slow component of the nystagmus.

Polypus attached in the neighborhood of the stapes: In these cases there is a continued sense of fullness in the ear and a distinct subjective circulatory tinnitus and continuous vertigo with partial deafness.

Anemia of the labyrinth: This condition is accompanied by general anemia and chlorosis. There is deafness, distressing tinnitus and perhaps a history of loss of blood.

Hemorrhage by accident or atheromatous changes: The attack is long in duration and does not clear up in a few minutes as in the cases depicted above.

Disease of the eighth nerve: Involvement of the vestibular branches. In such a case as this the attacks are continuous and affected in no way by blood changes. Deafness may or may not be present.

Mumps: By history, etc.

Cerumen pressing on the drum is easily seen.

Méniere's disease: The differential diagnosis from Méniere's disease is perhaps more difficult. Here we have a sudden effusion of blood into the semi-circular canals followed by deafness, while in the cases under consideration there is no deafness, in fact the hearing is often more acute than normal. Loss of consciousness is found in Méniere's and never in the other cases, while Méniere's is said to be due to excessive heat of the sun, the rush of blood to the labyrinth is so great it causes a hemorrhage directly into the labyrinth, while in these cases of stimulation disharmony there seems to be no hemorrhage. Where blood is in the endolymph it does not absorb for several days or weeks.

Treatment: Amyl nitrate perles lessen the attack. Dose of ¼ to ½ grain of quinine acts as a sedative to the vestibular apparatus. Alcohol and coffee should not be used; sponge baths of cold water, never hot baths, moderate exercise, avoidance of nerve disturbances, extreme heat or anything which tends to raise the blood pressure should be avoided.

I asked Dr. Barany when he was in this country if he thought excessive eye fatigue could reversely affect the labyrinth the same as irritation of the labyrinth affects the eye along the same nerve tracks. He replied that he did not think so. I disagree with him. A hyperemia of the labyrinth caused by increased pressure in the cranial vessels or a direct reflex action following eye fatigue seems possible to me.

FOCAL INFECTIONS OF THE HEAD*

EDGAR E. POOS, M.D., OPH.D.

BELLEVILLE, ILL.

One of the biggest advances made in the practice of medicine was the discovery of the importan rôle that focal infection played in the cause of systemic and chronic diseases.

A focus of infection is a circumscribed area of tissue infected with pathogenic bacteria; it may be primary or secondary. Primary foci are usually located in tissues communicating with a

*Read before Madison County Medical Society, Jan. 4, 1924.

cutaneous or mucous surface; while the secondary are due to infections of contiguous tissues or at a distance through the blood stream or lymph channels.

Focal infections of the mouth and upper air passages are very prevalent and are the basis of many systemic infections.

As the mouth is the portal of entry of all food and the nose and throat of all air, it can readily be seen that any infectious foods or air are readily absorbed by the mucous membranes and tissues of the nose, throat and mouth.

The most prevalent organisms of the mouth are the entameba buccalis, bacillus coli, and various saphrophytes. In the saliva and pharyngeal mucus are found streptoccoci, stephylococci, pneumococci, micrococcus catarrhalis, diphtheria, pseudo diphtheria, influenza and tubercle bacillus,, besides other pathogenic organisms.

They are not only a menace to the person who has these infectious materials in his head but he infects others by contact, such as sneezing, coughing, etc. These bacteria may be of the latent type but may become very virulent at any time, due to exposure to cold, physical or mental exhauston, debility, alcoholic dissipation or exposure to any of the infectious diseases.

Ear. Focal infections of the ear are generally due to otitis media or chronic mastoiditis; these usually follow the various infectious diseases, such as measles, scarlet fever, influenza, pneumonia, tonsillitis and also as a direct extension through the eustachian tube from chronic infected tonsils and adenoids.

The most common symptom is the discharging ear, at times pain in ear or mastoid region, always more acute following a cold, the patient's general health is nearly always poor.

The streptococci and pneumococci are the most common organisms found, but at times the influenza and bacillus coli are found.

As these infections go on there is usually more or less bone necrosis of the ear and mastoid region. The danger in these cases is not only deafness or the chronic infection in the ear and mastoid but by direct extension and through the blood stream, and due to the close proximity of the brain you often get a sinus thrombosis, meningitis, brain abscess and other infections.

Treatment. Keep ear clean, build up patient's general health; if tonsils and adenoids are enlarged or infected remove them, as they are the basis of the infection in a large number of cases; if removal does not improve the condition it may be necessary to do a simple or radical mastoid operation.

Nose. Focal infections of the nose are generally due to adenoids or sinus infections, but as the adenoids are more intimately connected with the tonsils we will consider them later. Sinus infections may begin as a direct infection of the sinus or secondary to some intranasal condition, or secondary to an infectious disease such as influenza, enteric fever, measles, scarlet fever diphtheria and other infectious diseases, especially common colds. They are very common in the various deformities of the nose, as enlarged turminates, deflected steptums, etc. In at least 25 per cent of these infections of the antrum, the teeth are the cause of the infection, due to the alveolar abscess or root abscesses rupturing through the thin alveolar wall of the antrum. This type produces a fetid pus. It is generally due to the bacillus coli, sometimes micrococcus catarrhalis or influenza bacillus.

Pathology. There is a chronic inflammation of the mucous membranes leading to a round celled or serous infiltration which may go on to the polypoid or cystic degeneration, periostitis and in some casts osteitis and caries.

Symptoms. There is more or less sinusitis in every acute cold, but as long as drainage is good it does not cause any serious symptoms. The two most common symptoms are pain and tenderness over region of cavity of a neuralgic character. The most common seats of pain are over the cheek in antrum infections, over the eyes and lower frontal region in maxillary or frontal infections, a little higher over frontal region in frontal infections, over bridge of nose and top of head in ethmoidal or sphenoidal infections, behind and above ear on occipital region in sphenoidal infections.

Obstruction in breathing occurs in nearly every case due to the swelling of the turbinates and the acute inflammation or chronic hypertrophy. Discharge varies according to the amount of obstruction, general health, type of infection, etc. These infections may travel downward, infecting the whole respiratory or digestive tract.

Treatment. Build up a general health, correct all nasal obstructions, keep nose clean, get good

drainage, lavage or clean out sinuses; if of dental origin take care of teeth.

Adenoids are made up of lymphoid tissue situated in the posterior nasal pharynx. They become infected from direct extension of infections of the throat or nose. These infections also cause them to enlarge. The characteristic symptoms of adenoids are: Mouth is open, lips thick, upper one elevated in middle, teeth crooked and projecting, chin recedes, alae nasi atrophied and pinched, arched palate, flat chest, etc. The infection may travel forward and infect the nose, upward and infect the ears or eyes, or downward, infecting the tonsils, pharynx, lymph glands or the lungs.

Treatment. Only satisfactory treatment is removal.

Tonsils. Tonsils become infected through contaminated air, infected food, especially milk, and by direct contact with individuals, also during colds and other infectious diseases. The organisms found are of the same type found in sinus and adenoid infections.

Pathology. Pathology varies between a simple hypertrophy to hyperplasia, lacunar or fibroid degeneration.

Symptoms. It varies according to the type of infection present, also whether or not there is any obstruction in breathing and to amount of infection present. The size of the tonsil does not always give you indications for removal.

Secondarily, you often find infections of the pharyngeal lymph nodes and glands of the neck and head, often causing glandular fever, but of late years we do not see these cases very often. Taking better care of the teeth and tonsils is one of the main reasons for this, but at times these infections persist even after the removal of tonsils and adenoids.

EFFECTS OF FOCAL INFECTIONS OF THE HEAD ON THE BODY

Eyes. Up to several years ago practically all infectious conditions of the eyes were thought to be due to syphilis, but lately we have realized the importance of focal infections as a cause of many of these conditions. Due to the intimate connection with the nose, the eyes become easily infected. Some of the most common affections are:

Chronic conjunctivitis, keratitis, iritis, cyclitis, retinitis, choroniditis, corneal ulcers, optic neuritis, optic atrophy, asthenopia, affections of the muscles and nerves of the eye.

Respiratory Tract. Due to direct extension of the infection often you have a bronchitis, infection of mediastinal lymph nodes, pneumonia, tuberculosis, bronchiectasis, asthma, very frequently due to anaphylaxis caused by the infection, hay fever from same cause.

Digestive Tract. Gastritis, gastric and duodenal ulcers, enteritis, colitis, cholecystitis, appendicitis, pancreatitis, and the various nervous indigestions; these are caused by swallowing the infectious material from nose, throat and mouth, also through the blood stream. Various strains of streptococci found in nose, mouth and throat seem to have a predilection for the appendix and other tissues of the digestive tract.

Genito-Urinary Tract. Glomerular nephritis, pyelitis and cystitis are often secondary to focal infections, they generally occur through the blood stream.

Muscles and Bones. Rheumatism, myositis, arthritis, lumbago, osteomyelitis and other infections occur very frequently following focal infections. These conditions are due to infection carried by the blood stream, also due to effect infection has on metabolism.

Blood. Have a secondary anemia in all chronic infections, also have an acidosis, probably due to the low calcium content of the blood in these cases.

Endocrines. The thyroid gland is affected in practically all these cases and becomes normal in action when the teeth, tonsils and sinuses are treated properly.

Adrenals. They are stimulated at first but later are depleted more or less; these are the cases that have the asthmas, urticarias, etc.

Pituitary is often affected, causing disorders of growth, sugar metabolism and affects on vegetative nervous system. Various other glands are stimulated in some cases and suppressed in others.

Nervous System. Have neuritis, neuralgias, epilepsy, meningitis, brain abcesses and other infections of the nervous system. Besides all kinds of neuroses, hysterias, neurasthenias are due to the effect on sympathetic and vegetative nervous system, also effect on various endocrines.

Vascular. Endocarditis, myocarditis, pericarditis, arrythmias, arteriosclerosis, hypertension

and hypotension are very prevalent in focal infections.

Conclusions: 1. Focal infections are the basis of most chronic and systemic diseases.

2. Careful examination, history, x-rays and examination of teeth by dentist may be necessary for a diagnosis.

3. Prognosis is better the earlier the infection is treated.

4. Treatment may be medicinal, physiotherapy or surgical.

5. These are the cases that make the rounds of the doctors, ending up with the chiropractor or faith healer.

Lincoln Theatre Building.

Society Proceedings

ADAMS COUNTY

Special Meeting, March 25, 1924

This was a special meeting called by the President to discuss the advisability of specially celebrating the 75th anniversary of the Society in 1925. Fifteen members were present. The committee appointed at the previous meeting (Drs. Swanberg, Koch and Stevenson) reported that it was highly desirable that this unusual event be celebrated in some special manner. This report was concurred in by the membership and a motion was carried that a committee of seven be appointed to begin to formulate plans now for the celebration. The Chair appointed Drs. Wells, Swanberg, Irwin, Center, Nickerson, Koch and Stevenson.

The Adams County Medical Society was formally organized on March 28, 1850, having had a pre-organization meeting prior to that date. So far as we have been able to investigate, this Society is the oldest in Illinois that has had continuous existence. It outdates the formation of the Illinois State Society by a few months—the State Society being organized in June, 1850. In view of this record of 75 years of continuous organization with regular meetings it seems very fitting that we celebrate our diamond jubilee in some unusual manner. The committee appointed is already laying plans to have one of the largest medical meetings in Quincy in 1925 that has ever been held in Western Illinois and expects to have an attendance from all over the Middle West.

Meeting of April 14, 1924

This regular meeting of the Adams County Medical Society was called to order by the President, Dr. Warren Pearce. There was a total attendance of 38 including the following members: Drs. Austin, Bowles, Beirne, A. H. Bitter, Caddick, Cohen, Davidson, E. J. Gabriel, M. C. K. Germann, Groves, Garver, H. Germann, Knox, Knapp, Koch, Knapheide, Litchfield, Ray Mercer, Montgomery, McReynolds, W. E. Mercer, J. E. Miller, Nickerson, Pearce, Pfeiffer, Pollard, Reiffert, Swanberg, Stevenson, Wells, Werner, Williams, A. K. Germann and Jurgens and four guests Drs. H. W. McKim, Newark, Mo., C. K. Gabriel, Quincy, J. C. Brown, Edina, Mo., and G. Wilse Robinson of Kansas City. The minutes of the regular and special meetings held during March were read and approved.

Dr. Ralph McReynolds, chairman of the Committee investigating charges of a physician practicing in this county without a license reported the progress that the Committee had made and read the correspondence that had passed between the Committee and the State Department of Registration and Education. Inasmuch as the investigation was not completed it was moved by Dr. Harold Swanberg that the Committee be continued. Seconded and carried. Dr. C. A. Wells reported for the "On to Springfield Convention Committee." He urged that every member endeavor to attend the State Society meeting and that we should have an attendance of at least 25. When a standing vote was taken of those agreeing to attend 15 stood up. Dr. J. A. Koch, local chairman of the Newspaper Publicity Campaign of the State Society reported he was in receipt of a communication from the State Society that the campaign was now on and that anyone who had suggestions to offer or comments to make in any way should communicate with him.

The Secretary stated that at each meeting an attendance sheet would be circulated among those present and each one should sign same in order that the attendance of all may be recorded accurately for publication in the Bulletin. He also called the attention of the members to the Bulletin advertisers and urged all to patronize them. The members were also called to the attention of the fact that there was no provision in the Constitution or By-laws for associate membership in the society and that this was very desirable because of the fact of several of the societies in this vicinity being totally inactive. The following amendment to the By-laws was submitted and read for the first time. "Physicians residing outside of Adams County in this or any other state may upon application and election become associate members of this society providing they are members in good standing in their respective state medical society. Such members shall not vote, hold office or be subject to any fees, dues or assessments but may enjoy all other rights and privileges enjoyed by the active members of this society. Associate membership in this society will automatically cease when such member is no longer in good standing in his respective state society." A letter from the American Medical Association requesting that some person or persons be delegated to be the representative of Hygeia in this community was read. It was moved by Dr. J. A. Koch that the Secretary be appointed to represent Hygeia in this community. Seconded and carried. The Secretary stated that the program committee was desirous of receiving suggestions for programs and if there were no objections, at the next meeting a symposium would

be held on Periodic Health Examinations, all of the speakers to be members of the society.

The censors reported favorably on the applications of Drs. C. K. Gabriel, J. W. Blan and J. H. Bryant for membership in the society, and they were elected into active membership by ballot.

Dr. J. W. H. Pollard spoke about the advisability of the Adams County Medical Society sponsoring Health Week in Quincy, May 11th to 17th, and to take over the activities of Wednesday and Thursday of that week which were to be devoted to better babies and physical examinations.

Following this a long discussion took place by various members who pointed out some of the evils of state medicine and promiscuous physical examinations of people able to pay for such services. This finally terminated in a motion by Dr. C. A. Wells as follows: "The Adams County Medical Society approves of the Health Week Program as suggested by the Illinois Department of Public Health and agrees to take over the activities of Wednesday and Thursday of that week, and while the membership does not approve of making free public physical examinations of infants and adults, strongly recommends that such examinations be made by the family physician." Seconded and carried.

Following this the membership enjoyed an interesting paper on, "The Schizophrenic Psychoses of the Dementia Praecox Group," by Dr. G. Wilse Robinson of Kansas City, President of the Missouri State Medical Society. This address was illustrated by lantern slides and the paper was discussed by Drs. H. Germann, Nickerson, Montgomery, Beirne and finally closed by Dr. Robinson. Dr. L. H. A. Nickerson made a motion that we extend Dr. Robinson a rising vote of thanks for coming to Quincy to address the society. Seconded and carried. A motion for adjournment was then carried and the meeting closed about 10:45 P. M.

(Dr. Robinson addressed the Quincy Kiwanis Club at noon on "A Way of Living" and a dinner was tendered him by the members of the Adams County Medical Society at the Hotel Quincy previous to the meeting at which there was an attendance of 10.)

HAROLD SWANBERG, M. D., Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, April 2, 1924

1. Obstetrics in Relation to Chronic Gonorrhoea.
Anna E. Blount
Discussion .....Effa V. Davis
2. Mental Conditions Associated with Disease of the Brain and Cranial Nerves of Special Sense.
Albert B. Yudelson
Discussion.....Ralph C. Hamill

Regular Meeting, April 9, 1924

Investigation About the Causes of Inferiority of Cow's Milk in Infant Feeding.....Prof. H. Finkelstein, Vienna, Austria.
General Discussion

Joint Meeting Chicago Medical and Chicago Roentgen Societies, April 16, 1924

1. The Spastic Colon.....James T. Case, Battle Creek, Michigan
Discussion opened by Arthur R. Elliott
2. An Important Supreme Court Decision.....
.....I. S. Trostler
Discussion opened by M. J. Hubeny

Regular Meeting, April 23, 1924

The Irritable Abdomen.....Leonard Freeman, Denver, Colorado
Discussion....Theodore Tieken, Frederick Dyas

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting of February 19, 1923, Concluded

The specimen found at autopsy showed a distinct pouching of the floor of the third ventricle. At the time of the autopsy, it was considered a cyst of the infundibulum of the hypophysis, but after complete hardening and sectioning through the center, it was seen to be a cyst in the floor of the fourth ventricle. The ventricle had become greatly dilated, communicating at this point with the third ventricle, also greatly dilated, and markedly enlarged and dilated lateral ventricles. A section of the portion of the wall of the cyst of the floor of the fourth ventricle showed that the lining consisted of marked hypertrophy of the ependyma of the wall of this ventricle.

In the third case, the patient entered the Cook County Hospital with a diagnosis of brain tumor, and complained of blindness in the right eye of about six months duration. She had headaches but no vomiting. An interesting point in the history was that she had intermittent rhinorrhea, with which her headaches were relieved for a time.

Examination showed right exophthalmos, complete external and internal ophthalmoplegia, and right optic atrophy. In addition she had an ulceration, old and healed, of the soft palate, producing a complete destruction of the uvula, and a marked reduction in the size of the nasopharynx.

The day before she died, X-ray plates showed marked cloudiness of the right ethmoid cells. There was a positive blood Wassermann, but negative spinal fluid Wassermann. On the basis of the old, healed, and active gummata in the pharynx, a diagnosis was made of basilar meningitis, probably syphilitic in origin, with the possibility of a gumma behind the eyeball responsible for the exophthalmos.

At autopsy, it was found the exophthalmos had largely disappeared, lending support to the view that this might have been a syphilitic affair. An interesting finding was a complete destruction of the right optic nerve, by an acute suppurative process. This necrosis and suppuration involved the right optic nerve, the posterior and anterior clinoid processes of the hypophysis, and the hypophysis was completely destroyed as far as could be determined from the gross examination. Opening into the anterior ethmoid cells, more suppurative necrotic material was found, destroying the cells; and the ethmoid bone in the region of the cribriform plate was involved in the

necrotic process over an area of two by three centimeters. There was no meningitis except a localized meningitis in the region of the optic nerve. The lesion was right in the chiasm and posterior to it, involving the hypophysis.

DISCUSSION

Dr. Lewis J. Pollock, by invitation, stated that he was particularly interested in the first two cases, because of the importance of recognition of lesions of the third ventricle in the production of signs referable to the optic nerves, the oculomotor nerves and the pituitary body. In 1909, Dr. Weisenburg collected 27 cases of tumor of the third ventricle. These tumors did not give rise to any definite symptomatology, but oculomotor disturbances were very common.

Hydrocephalus with cystic third ventricles frequently produced the clinical picture of a tumor of the third ventricle. He had the opportunity of examining such a brain post-mortem. The patient had shown a bitemporal hemianopsia, and a marked dysfunction of the pituitary body with gross adiposity. When the pituitary body was compressed by a cystic third ventricle, the pineal body likewise suffered as the result of the same mechanism.

Dr. Clark W. Hawley said he sent the second case to the Cook County Hospital. He made a diagnosis of brain involvement of some kind, just what, he did not know. The description given by Dr. Fink of the condition of the eye was absolutely as he found it, and it was most difficult to make out the changes in the fundus because of the condition of the vitreous and lens. The pupil was widely dilated. She was the happiest patient he ever saw. She was smiling all the time and perfectly contented.

Dr. Fink, in closing, stated that microscopic examination of the first tumor, taken from the original specimen as removed from the region of the hypophysis and from the floor of the third ventricle, showed it to be a basophilie cell type of pituitary tumor, described by Ewing as an adenocarcinoma of the pituitary.

The question of extensive infiltration of this tumor was of interest in connection with the pituitary syndrome. Here he had a very extensive infiltrating tumor arising from the anterior lobe of the hypophysis and producing the socalled hypophysis syndrome. Whether in such a case as this the adiposity, increased sugar tolerance, and polyuria should be ascribed to disturbances of the pituitary body rather than to some disturbance of the third ventricle, or the other region of the infiltrated tumor, was a question open for discussion; and one on which a good deal of work was being done at the present time.

As to the pathology in the second case, this condition was entirely congenital, due to obstruction of either the foramen of Magendie or the foramina of Key and Retzius.

The third specimen was of great interest from a clinical standpoint as demonstrating the possibility of unilateral involvement following sinus infection. but this was a rare complication. In connection with this tumor there was also septic thrombosis of the cavernous sinus on the right side.

Clarence Loeb,
Corresp. Secretary.

MADISON COUNTY

Our April Meeting

The Madison County Medical Society met in Edwardsville on April 4, 1924, with President Dr. R. S. Barnsback in the chair.

By vote the reading of the minutes was dispensed with.

Upon favorable report of the Board of Censors, Dr. J. H. Stevens of St. Jacob, was elected to membership.

The Committee, appointed to meet with the Sanitarium Board, made its report which was accepted and the Committee continued.

The special order for the meeting was continued to the next meeting on account of lack of time.

The Secretary was instructed to publish a special edition of *The Madison County Doctor* to be used as publicity material to counteract the plan of transferring the Sanitarium Fund to the general County treasury as advocated by the Farm Bureau. He was also authorized, in connection with the Sanitarium Committee, to finance all necessary expense in our campaign in opposition to above movement, all bills to be paid out of the fund of the Anti-tuberculosis Association.

The members present enjoyed an all day School of Instruction on "Tuberculosis," a full account of which will be found on another page of this issue

On motion adjourned.

PIKE COUNTY

The Pike County Medical Society met in Pittsfield April 24 with an attendance of thirty physicians, members and guests. The weather and roads were quite favorable for a large gathering and quite a number of guests motored a distance of forty or fifty miles. Dr. J. I. Doss of Milton the president being unavoidably absent, the vice-president, Dr. W. W. Kuntz, presided. The minutes of the last meeting being read and approved, the election of officers for the ensuing year was taken up with the following result:

President, W. W. Kuntz, M.D., Barry.
Vice-President, S. L. Smith, M.D., Pittsfield.
Sec-Treas., W. E. Shastid, M.D., Pittsfield.
Delegate to the State Society, W. E. Shastid, M.D., Pittsfield.
Alternate, T. D. Kaylor, M.D., Barry.

The request for "American Aid for German Medical Science" was then read by the secretary, as also the communication of the A. M. A. Journal in reference to the lay magazine "Hygeia." It is hoped that the usefulness of this periodical may be greatly amplified by larger and larger subscriptions.

The society favored the proposition to have a school of Instruction as outlined by the Illinois Tuberculosis Association and hopes to have a team visit the county at no distant date.

As time goes on, it becomes more and more evident that *all* agencies must be used that are at all available to fight this plague and protect the lives of all our citizens. Education and instruction are two of the greatest agencies of all; let us use them to the limit.

Dr. Harold Swanberg of Quincy started the scientific programme by presenting a very comprehensive and instructive paper on "The X-Ray in General Practice."

The paper was illustrated by many stereopticon slides and received much favorable comment. It was discussed with much interest by Drs. Chapin, Bowe, Norris, Koch and Stevenson.

Dr. F. A. Norris of Jacksonville then read a very

thoughtful and analytical paper on "Gastric and Duodenal Surgery," covering many of the details and much of the operation technique related to this subject.

Discussion was general and many important facts stressed.

Dr. Ellsworth Black of Jacksonville closed the day's progamme with an exceptionally fine paper on "Papilloma of the Bladder with Prostatic Obstruction."

He covered his subject in a scientific way, which showed elaborate preparation.

Society adjourned about 5 p. m.

W. E. SHASTID, Secretary.

Personals

Dr. John C. Geiger, epidemiologist for the U. S. Public Health Service, and assistant professor of epidemiologist at the University of Chicago, has been appointed assistant commissioner of health and epidemiologist in the Chicago Department of Health.

Dr. Phillip A. Scott of St. Luke's Hospital, Chicago, has been appointed director of the department of pathology at the Tacoma General Hospital.

Col. Patrick J. H. Forrell, Chicago, has received the silver star from the war department for gallantry in action against the Spanish forces in attending wounded under fire at Manila, Philippine Islands, August 1, 1898.

Dr. George M. Curtis of the University of Chicago addressed the Chicago Society of Internal Medicine, April 28, on "The Production of Experimental Diabetes Insipidus."

Dr. Durward R. Jones, Chicago, has been appointed health officer of Pennington County, South Dakota, to succeed Dr. Henry J. T. Ince.

Dr. S. A. Waterman, head surgeon of Auburn Park Hospital, Chicago, has purchased the Cottage Hospital of Norwood, Ill.

Dr. Dean Lewis of Chicago addressed the Champaign County Medical Society April 10, 1924.

Dr. R. W. McNealy, Chicago, delivered an address on "Newer Problems in Blood Vessel Surgery," before the Erie County Medical Society April 1 at Erie, Pennsylvania.

Dr. Marion C. Dale recently celebrated his fiftieth year of practice in McLeansboro.

Dr. Thomas A. Mann of North Carolina has succeeded Dr. Raymond V. Brokaw as director of the Morgan County Public Health Department.

News Notes

A joint meeting of the Chicago Medical Society and the Chicago Roentgen Society was held April 16. Dr. James T. Case, Battle Creek, Mich., spoke on "The Plastic Colon."

At the meeting of the Chicago Neurological Society, April 17, Dr. William A. White, Washington, D. C., spoke on "The Comparative Method in Psychiatry."

The contract has been let for the seventy-five bed addition, power house and laundry for the Norwegian Lutheran Home and Hospital on Leavitt street at a cost of $200,000.

According to reports, Dr. Charles McCormick, head of the "McCormick Medical College" was fined $100 by Judge Carpenter, April 21, when he pleaded guilty of sending obscene matter through the mails.

The staff of St. Anthony's Hospital, Rock Island, gave a dinner to Dr. George L. Eyster, March 27, in commemoration of his fiftieth year of practice in Rock Island. Dr. Thomas J. Watkins of Chicago gave an address.

The Salvation Army formally opened a new maternity hospital and home on North Crawford Avenue, April 14, which was erected at a cost of $280,000. It was designed particularly for unmarried mothers, and will accommodate seventy-five women and forty babies.

A joint meeting of the Institute of Medicine and the Society of Medical History of Chicago was held April 11. Dr. John D. Comrie, lecturer in clinical medicine and the history of medicine, University of Edinburgh, Scotland, spoke on "Four Centuries of Anatomy at Edinburgh."

According to reports, Dr. Michael T. Naughton, recently convicted on two indictments charging violation of the Harrison Narcotic Law, was sentenced March 29 by Judge Cliffe to serve two five-year sentences concurrently in the Fort Leavenworth penitentiary.

The attorney general of Illinois has informed the Chicago Medical Society that he is unable to provide attorneys for the enforcement of the Medical Practice Act. The council of the society has therefore appointed a committee to solicit funds by voluntary subscription to be used to defray the expense of defending the Medical Practice Act against attacks. Members of the medical profession are asked to contribute to this fund.

The mayor has submitted an ordinance to the

city council providing for a board of health headed by the health commissioner and including the city physician, commissioner of public works, chief of police and corporation counsel. The Supreme Court has decided that the city cannot enforce sanitary regulations unless they have been approved by the state board of health or by a local board. The proposed new board would be empowered to make rules and regulations.

As a means of stimulating birth registration, the state department of public health has issued engraved certificates of birth to parents of all children, except those not registered, born in the state outside of Chicago, from July-November, 1923. The number of certificates already issued is approximately 30,000. Parents of children born in the period indicated, who have not received certificates are informed that the births concerned has not been properly and legally recorded.

The state department of public health has completed arrangements to establish a branch diagnostic laboratory in connection with the Decatur and Macon County Hospital. Work at this laboratory will be confined to the examination of cultures for the diagnosis of diphtheria which will be done under the direction of Dr. Bartlett C. Shackford. This brings the total number of such branch laboratories in the state to seven, the other six being located at Chicago, Galesburg, Moline, Ottawa, Urbana and East St. Louis.

The annual meeting of the Rock Island County Medical Society was held in Rock Island, April 8, 1924. The following officers were elected: President, Dr. A. T. Leipold, Moline; Vice-President, Dr. Ralph Dart, Rock Island; Secretary, Dr. Phebe L. Pearsall, Moline; Treasurer, Dr. H. D. Paul, Rock Island. Dr. L. J. Osgood of Waukegan, Illinois, gave the chief address of the evening.

Deaths

Jacob W. Bolotin, Chicago; Chicago College of Medicine and Surgery, 1912; a Fellow A. M. A.; formerly instructor of physical diagnosis at his alma mater and on the staffs of the Livingston County Sanitarium, Pontiac, and the La Salle County Tuberculosis Sanitarium, Ottawa; aged 36; died, April 1.

Sarah H. Brayton, Evanston, Ill.; New York Free Medical College for Women, New York, 1875; a Fellow A. M. A.; aged 70; died, April 4.

Curtis Brown, Marion, Ill.; Missouri Medical College, St. Louis, 1874; member of the Illinois State Medical Society; aged 70; died, March 25.

George W. Clendenen, Fulton, Ill.; Bennett College of Eclectic Medicine and Surgery, 1884; aged 79; died March 11, of senility.

Elspeth M. Conner, Chicago; Harvey Medical College, Chicago, 1898; a Fellow A. M. A.; member of the Chicago Pediatric Society; aged 59; died, April 8, of heart disease.

Albert B. Culley, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1906; aged 46; died, March 31, of pneumonia.

Charles Victor Ellingwood, Chatsworth, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1887; aged 65; died, March 17, following a long illness.

Leopold Frankel, Chicago; University of Budapest, Hungary, 1893; a Fellow A. M. A.; aged 54; died, April 2, at St. Joseph's Hospital, of pneumonia.

Samuel M. Green, Walnut, Ill.; University of Louisville (Ky.) Medical Department, 1889; Civil War veteran; aged 81; died, January 29, at the Illinois Soldiers' and Sailors' Home, Quincy, of senility.

Harlan Harvey Hart, Bloomington, Ill.; Northwestern University Medical School, Chicago, 1921; aged 29; on the staff of the Brokaw Hospital, where he died, April 2, of pneumonia.

Jean Pierre Edmond Heintz, Chicago; Jefferson Medical College of Philadelphia, 1889; aged 67; died, March 24, of edema of the lungs.

Bayard Taylor Holmes, Sr., Chicago; Chicago Homeopathic Medical College, 1885; a Fellow A. M. A.; Chicago Medical College, 1888; formerly professor of surgery, University of Illinois College of Medicine, Chicago, and the Chicago Medical College, and on the staff of the Cook County Hospital; author of several works on surgery and on insanity; aged 71; died, April 1, at his winter home in Fairhope, Ala., of heart disease.

Janet Gunn, Decatur, Ill.; Northwestern University Woman's Medical School, Chicago, 1889; for fifteen years director of the Arlington Heights (Ill.) Sanitarium, and at one time on the staff of the Mary Thompson Hospital, Chicago; aged 68; died, April 1.

Maria Blair Maver, Chicago; Rush Medical College, Chicago, 1906; associated with Dr. Howard T. Ricketts in his work on Rocky Mountain spotted fever; aged 60; died, April 1, at the Presbyterian Hospital, of hyperthyroidism and bronchopneumonia.

William W. Hanes, Mount Morris, Ill.; Physio-Medical Institute, Gincinnati, 1883; member of the Illinois State Medical Society; formerly county coroner; aged 63; died, March 11, of jaundice.

Henry Lindlahr, Chicago; National Medical University, Chicago, 1904; aged 62; died, March 26, of pneumonia.

Archer C. Ragsdale, Alton, Ill.; Detroit (Mich.) College of Medicine and Surgery, 1889; Barnes Medical College, St. Louis, 1901; at one time superintendent of the Creal Springs (Ill.) Sanatorium; on the staff of the Alton State Hospital, where he died, March 14, of influenza and meningitis, aged 62.